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ABSTRACT

This manual was designed as a resource guide for handicapped individuals interested in two-year occupational training at various institutions within the State University of New York (SUNY) or City University of New York (CUNY) systems. It provides an overview of 50 vocational degree programs, indicates which educational institutions offer such programs, and assesses the following characteristics of each: (1) course requirements (number of papers per course, internship and field trip requirements); (2) classroom procedures (utilization of audio-visual aids, interpreters for deaf persons, oral exams); (3) classroom setting (space for wheelchairs, entry ramps, elevators); (4) course environment (location, temperature, space); and (5) physical and personality demands of coursework (lifting, manual dexterity, kneeling, or oral communication requirements, work under stress, stable work routine). It also indicates characteristics of the jobs which each program leads to, including worker personality characteristics, physical demands, work setting, and requirements for vision, speech, hearing, and eye-hand coordination. The manual also provides brief narrative job descriptions, and lists professional associations in the field. (DC)

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Vocational Education: A Manual Of Program Accessibility For The Physically Disabled Two-Year College Applicant

State University of New York
Coordinating Area No. 4

Research Project

JC 770 459

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ERRATA

Errors have appeared in some of the listings of schools offering particular degree programs as well as in the omission of asterisks from a number of deserving respondents. We are correcting these below and apologize for any embarrassment or inconvenience thus incurred.

Accounting - p.10
Corning should be starred to indicate response to the survey.

Architectural Technology - p.18
This program is also offered at Dutchess, Farmingdale, New York City, Orange County and Tompkins-Cortland.

Business Administration - p.34
La Guardia should be both listed and starred as a respondent.

Child Care - p.42
This list is totally erroneous and ought to be replaced by the following:

- Broome *
- Dutchess *
- Erie/City *
- Erie/North
- Kingsborough *
- La Guardia *
- Nassau *
- New York City
- Staten Island

Civil Technology - p.46
This program is also offered at Farmingdale, Hudson and Monroe.

Construction Technology - p.58
This program is also offered at Alfred, Canton, Fulton-Montgomery, Herkimer, Staten Island and Tompkins-Cortland.

Data Processing - p.70
Hudson Valley should be starred as a respondent.

Environmental Technology - p.94
This program is also offered at Queensborough.

Fire Protection Technology - p.102
Rockland should be starred as a respondent.

Food Services - p. 106
This program is also offered at Farmingdale.

Mechanical Technology - p.138
This program is also offered at New York City.

Radiologic Technology - p.182
This program is also offered at Broome, Hostos, Nassau and Orange County.

Science Laboratory Technology - p.198
Niagara should be starred as a respondent.

Secretarial Science - p.202
Queensborough should be starred as a respondent.

p.209 - At the end of the last paragraph on this page, the number 212 ought instead to read 210.

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This project represents a continuation of the critical work to provide program guidance and counseling for the physically disabled two year college applicant. Occupational programs in all of the public community colleges and agricultural and technical colleges have been carefully surveyed with regard to the particular needs of the handicapped student.

We regard this important manual, and its predecessor published in 1976, as significant responses by and initiatives of the State University of New York in the spirit of the federal regulations relating to the handicapped. Sensitivity to their needs and the continued awareness of ways by which occupational programs may be fashioned to provide them with greater access surely are the worthwhile by-products of these manuals. They will serve not only as guidelines for handicapped residents of New York State but for those of other states as well.

Mrs. Talah Bellin has shown rare skill in coordinating and directing the research endeavor which resulted in this unique manual. She was ably assisted by Mrs. May Aisen, Mrs. Lotte Hamburger, Ms. Victoria Nanos and Mrs. Susan Tepfer.

The State College of Optometry has been privileged to serve as the agent campus to host the conduct of this important research. Our deep professional, social and educational concerns for the visually handicapped were the motivations to undertake this research endeavor.

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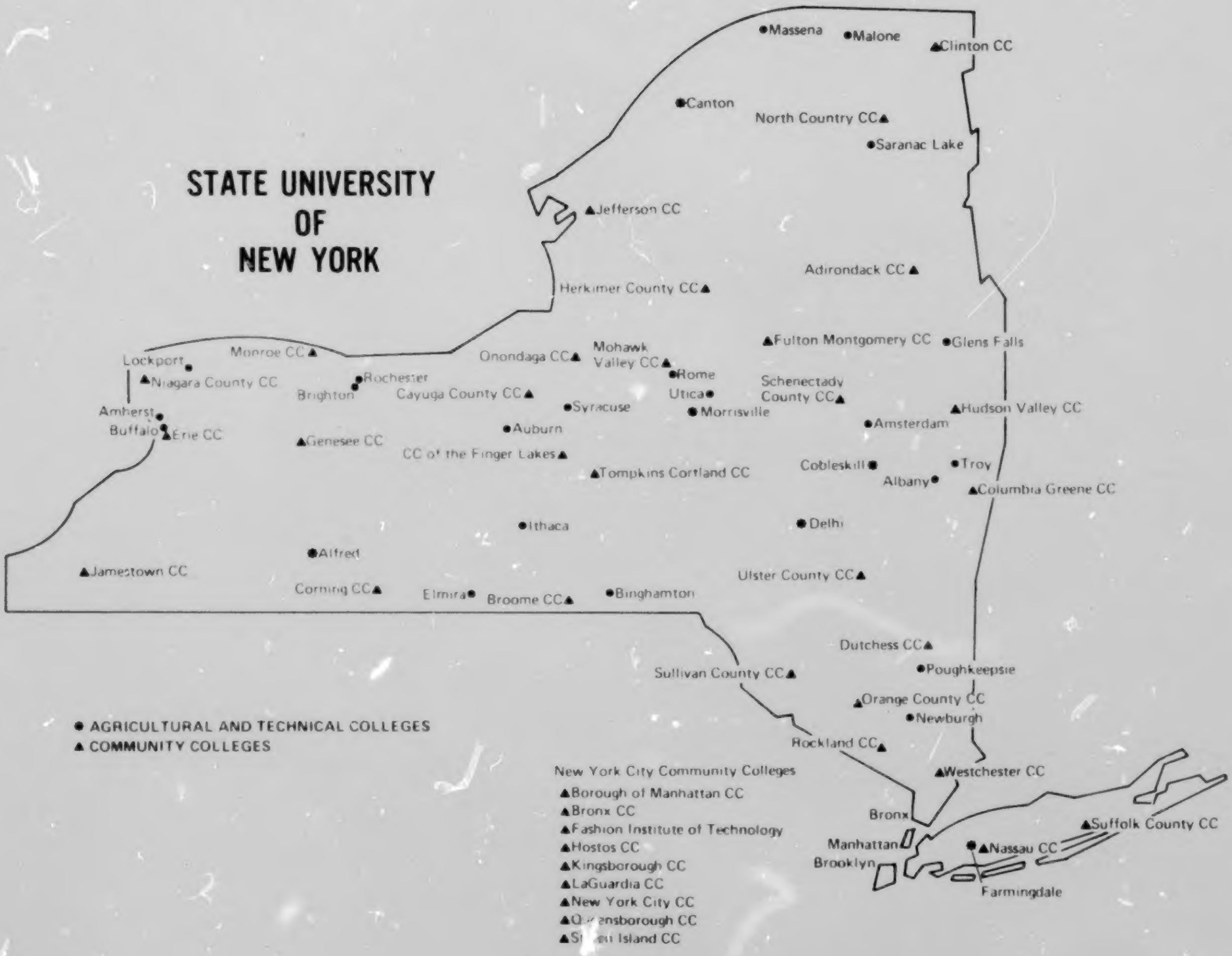
STATE UNIVERSITY OF NEW YORK



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Elmira
Broome CC
Binghamton
Dutchess CC
Poughkeepsie
Sullivan County CC
Orange County CC
Newburgh
Rockland CC
Westchester CC
Bronx
Manhattan
Brooklyn
Nassau CC
Suffolk County CC
Farmingdale
● AGRICULTURAL AND TECHNICAL COLLEGES
▲ COMMUNITY COLLEGES

New York City Community Colleges

- ▲Borough of Manhattan CC
- ▲Bronx CC
- ▲Fashion Institute of Technology
- ▲Hostos CC
- ▲Kingsborough CC
- ▲LaGuardia CC
- ▲New York City CC
- ▲Queensborough CC
- ▲Staten Island CC

INTRODUCTION

In keeping with the mandate conferred upon the State University of New York Coordinating Region No. 4 by a grant of the State Education Department (Bureau of Two Year College Programs, Division of Occupational Education Supervision) to increase awareness of post-secondary vocational education opportunities within the SUNY–CUNY systems among academically qualified, physically handicapped individuals, this manual was developed to provide a profile of the instructional demands which serve to define the academic accessibility of various occupational programs to physically restricted students.

In order to arrive at this compilation, a task analysis questionnaire was sent to every professor teaching a mandatory course (i.e. one required to complete the terms of a degree program) in an occupational major, asking for the delineation of academic performance demanded, physical mobility/activity required, equipment utilized and personality factors involved. Since many of the vocational programs are offered at a number of the two year colleges, responses were received on the same subject matter from a variety of sources.

Though we can assume neither a standardization of curricula in a particular field throughout this relatively autonomous system nor a stability of form within a single institution from year to year, we hope by collating the information to arrive at the general parameters of the various teaching approaches employed. The aggregation of specific data from multiple sources should allow us to tell a potential handicapped student what the range of performance expectations generally is in a particular field of study at SUNY–CUNY.

Limitations of time, cost and response rate have dictated the focus upon fifty programs rather than the two hundred and nine actually available in the various segments of the state-city systems. Even here, given the ever-evolving nature of the institutional experience, no claims to a definitive portrait can be put forth. Yet in light of the existing dearth of detailed information and the burgeoning demand for broadened options and guidance on the part of a newly militant, articulate handicapped population, this offers a prototypal ground-breaking effort which, it is hoped, will point the way for more conclusive data-gathering on the part of the individual colleges themselves. Ideally, each school should require such an assessment, updated yearly, of each of its departments. Fifteen minutes for each professor to fill out the requisite form and a day or so for a departmental administrative assistant to collate the data would suffice to prepare a college file which could be tapped by any prospective student whose physical condition imposes limitations of flexibility and thus requires greater preparedness.

While the mass of data, filtered through the perceptions of non-handicapped respondents as here in our own survey, might initially appear inhibiting, the purpose of these disclosures is not restrictive but expansive. Only through the prior awareness of specific levels of academic/vocational expectation can one determine the areas of negotiability, the substitutive techniques, the compensatory mechanisms, the adaptive behaviors, the possible compartmentalization of limited but vital capabilities into acceptable areas of subspecialization – in short, the methods of circumventing and overcoming the difficulties posed. Rather than sanctioning the automatic dismissal of unexplored vocational options as insuperably taxing, this demystification should provide the stuff of specific challenge to ingenuity and inventiveness on the part of disabled individuals and the agencies and institutions legislatively charged with broadening their educational and occupational horizons.

Since employment is the goal of vocational education, parallel physical task information on several cognate occupations for each vocational degree program has been provided to the extent that such data are available and applicable.

When the products of this survey are used in conjunction with our earlier manual (**A Guidance Manual for the Physically Disabled Two Year College Applicant** – 1976) which described the architectural barriers found and support services offered on the forty-eight SUNY–CUNY two year college campuses, the resulting information base should endow the disabled prospective applicant with greater latitude in the realistic appraisal of his range of options and possibilities of success prior to a total commitment of energies, resources and hopes.

SUNY 4 is one of four regional or coordinating areas of the State University of New York system. It represents a consortium of twenty-six colleges and university centers located in the southeastern portion of the state. Programs planned by SUNY 4 faculty and administrative group utilize the combined resources and expertise of member institutions. The regional cooperative effort provides increased opportunities for students and faculty engaged in academic, research and clinical activities, as well as benefiting the community in general.

As a consequence of the "Fleischmann Report on the Quality, Cost and Financing of Elementary and Secondary Education in New York State", the State Board of Regents issued a position paper in November 1973 recognizing the importance to provide for the education of children with handicapping conditions. SUNY 4 aspires to assume its responsibility to expedite the Regents' proposal through the establishment of a Learning and Developmental Disabilities Institute. This institute would afford the SUNY 4 university community an opportunity to study, research and confront the multidisciplinary problems of handicapped children and young adults. This manual is the result of a project "A Central Guidance and Counseling Service for Disabled Prospective Two Year College Occupational Students" undertaken by the State University of New York Coordinating Area No. 4 (SUNY 4) with the anticipation of coordinating this effort, and others, under the projected SUNY 4 Learning and Developmental Disabilities Institute. SUNY 4 has designated the State College of Optometry as the agent campus for the formation and operation of the Institute.

MANUAL FORMAT: PATTERN and PURPOSE

Each of the fifty SUNY—CUNY vocational degree programs addressed by this manual is given a four page treatment in an established pattern.

FIRST PAGE

The narrative on the first page describes the general characteristics of the various curricula offered under the particular career title by the schools listed on the chart below it. Certain cautions must be noted here. While we have sought to describe features common to the field, some of the schools' individualized programs resist such convenient categorization. Where marked deviations of emphasis occur, we have attempted to call attention to them. Furthermore, schools may give different titles to similar programs or offer a related program with certain overlapping features. To alert the reader in such cases, we have cross-referenced the pertinent titles under the "see also" heading. Though these rejections of standardization may constitute a drawback to the neatness of survey results, they are undoubtedly more accurate reflections of the geographic/technological varieties of demand to be found in the occupational marketplace — hence valuable information for employment-oriented graduates.

The chart listing the names of all the SUNY—CUNY community colleges conferring this degree also indicates by asterisk those respondents on whose replies our program information is based. It is most important to realize that omissions of reportage either from entire programs or from sub-departmental segments may skew the resulting data. We obviously cannot evaluate the relative importance of that which has not been recorded or forwarded. The nature of the material therefore precludes rigorous analysis. However, it does offer a hitherto unavailable informed impression of the physical, intellectual, emotional and environmental demands of these programs with as much perceptive detail as the cooperating schools and professors have vouchsafed us.

SECOND PAGE

The charts found on the second page offer a summary of the tabulated professorial responses to our questionnaire dealing with specific course requirements as well as possible accommodations.

No conclusions or prescriptions are offered regarding course accessibility to physically disabled students. This evaluation must be left to the individual student and his advisor who alone are alert to his mix of abilities and potential. Our effort has been to probe and bring to light possible challenges, obstacles and aids in order to effect informed decisions and competent strategies.

A detailed legend and key to the charts printed on this page and on the top half of the third page will be found on page 6. Wishing to present these explanatory remarks in useful proximity to each program's specific data so that they may function as interpretive guides, we have chosen to enter them on fold-out sheets. When these pages are opened out completely, the explanations will serve as an immediately accessible reference for every degree program's four data sheets.

THIRD PAGE

This page is divided into two sections, chart and narrative.

The chart reflects our respondents' assessments of the physical tasks and personality stresses likely to be encountered in that portion of the academic training which most directly mimics the occupational experience, including the specialized laboratory, shop or field placement.

The narrative on the lower half of the page presents the fuller, elaborated professorial replies permitted by the open-ended questions in our survey instrument as distinct from the structured, single-answer responses recorded in the charts. The greater freedom allowed by this form was helpful in generating specific detail to flesh out the skeletal frame provided by the other data-processed replies. Again, we are restricted as to comprehensiveness or absolute representational accuracy by the incompleteness of response. Nevertheless, considerable elucidating information is forthcoming.

FOURTH PAGE

Since the teaching of marketable skills is the avowed goal of vocational education, successful placement in the job world is the anticipated outcome.

In terms of our survey's purpose then, the question may well be raised as to how closely the physical demands of the academic training reflect the actual functions of the work place. Can a student who successfully fulfills the various demands of a vocational degree program be certain of his ability to meet the physical challenges of the job? Are there discrepancies to which students can be alerted in advance?

In an attempt to deal with this justifiable concern, our project team has searched the Department of Labor's massive source book, **The Dictionary of Occupational Titles,** its supplementary volumes and companion brochures including **Vocational Education and Occupations** for titles, descriptions and physical characteristics of jobs related to our pertinent degree programs' career training. A sampling of these are presented on the fourth page. Further explanatory comments will be found on the fold-out sheet under the heading **THE WORK PLACE.** A caveat: While the D.O.T. is the most thoroughly researched resource available, it cannot reflect in detail the myriad variations of actual requirements or, indeed, innovative possibilities to be found in each field nationally; rather, it presents a capsuled version of the most recurrent features. This fact is underscored here to forestall discouragement; the student should be prepared to investigate further the varying occupational options and settings available and/or possible within his vocation of choice. Toward this end, the names and addresses of the relevant professional associations have been included on this page. Other guidelines for individual follow-up activity are suggested on page 210 under the heading **SUGGESTIONS FOR INDEPENDENT EXPLORATION.**

Where applicable, the address of licensure or credentialing authorities is listed as well.

EXPLANATORY NOTES
and
KEY

(FOLD-OUT)

READERS MAY FIND IT CONVENIENT
TO KEEP THE FOLLOWING PAGES
OPEN FOR IMMEDIATE REFERENCE
WHILE PERUSING DEGREE PROGRAM CHARTS.

EXPLANATORY NOTES and KEY

Each vocational degree program's tasks, as reported in these charts, have been divided into five groupings:

(1) course requirements
(2) classroom procedures
(3) classroom setting
(4) course's work environment
(5) physical and personality demands of course's occupational training.

Certain explanations are common to all five sections, some are relevant to several, and others are idiosyncratic to particular questions.

To facilitate the reader's use of the charts, the symbols and concepts of general significance will be dealt with first, followed by the individual cases under the aforementioned headings in the sequence of their appearance.

GENERAL FEATURES:

R.R.R. = Respondents' Reply Rate. Not every question in our survey was addressed with equal consistency by the respondents. To reflect this variability of data base per question, each entry is introduced by a symbol representing the percentage of substantive response received by the specific question out of the total number of returned questionnaires in that field. This is portrayed in the charts as follows:

● = 75 – 100%
◕ = 50 – 74%
◒ = 25 – 49%
◔ = 1 – 24%
0 = no response

RANGE = These figures represent the spectrum of requirement from the lowest (excluding zero) to the highest mentioned by the respondents.

M.F.F. = Most Frequent Figure(s). This refers to the answer which was most consistently given by the respondents. When this was zero, the next most frequent answer was given as well. The latter step is necessitated by the mix of reading courses and practical courses (routinely met within these programs) which may differ radically in particular task requirements, with both their resulting figures being accurate reflections of their respective shares of the curriculum.

YES = The percentage recorded here reflects the proportion of the respondents who felt that the task/skill/obstacle in question was vital/unavoidable in this program.

SOMETIMES = This response is interpreted to mean that the pattern in the course was not fixed. It may represent an area of possible negotiability within the field as opposed to the absolute requirement of the "yes" or function as a warning of an otherwise unexpected occasional demand. It can mean yes-and-no, perhaps, varies and infrequent.

Note: Infrequently, a zero may appear in the "yes" category while a specific percentage will be listed in the "sometimes" row for the same question. We interpret this to mean that while there is no consistent positive requirement of this nature, occasionally there may be a call for the item in question.

⟶ = The arrow indicates that the entries involved are functionally dependent upon the initial question, i.e. are sub-categories of the major question. In such cases the respondent's reply rate (R.R.R.) for the sub-question is a portion of the positive reply to the major question.

NA = Not Applicable. This symbol is used when the form of a question makes the particular category a non-utile distinction.

COURSE REQUIREMENTS:

number of lectures, labs, papers – These categories may reflect certain ambiguities of interpretation. For example: the word "laboratory" encompasses for our respondents areas as various as the technical laboratories of biology, the shop of the automobile technologists, the "human" laboratory of the community service program. Similarly "papers" were interpreted to mean in some cases logs, lab reports, accounting problem sets, nursing care plans and data programs while "lectures" included recitations.

number of instructors – In some instances, the rather large number may indicate the total number of instructors teaching parallel classes in the subject rather than the number teaching the same group of students throughout a semester.

library work required – The "yes" percentage here is based not on the total number of respondents to the questionnaire but rather the percentage of those who indicated a positive response to the assignment of reading pages.

CLASSROOM PROCEDURES:

slides, printed lecture notes, records and tapes, models, pictures and charts, film and video tape } The various audio-visual categories are not mutually exclusive. More than one type is frequently used in a single class. Therefore the percentages across the rows are unlikely to add up to 100% and often are considerably more.

CLASSROOM SETTING:

special setting – This refers to a classroom setting other than a lecture hall, i.e. a laboratory, workroom, shop. The detailed inquiry here as to the accessibility of these areas is warranted by virtue of the non-interchangeable character of these rooms. If a lecture is scheduled for a non-accessible area, it can be changed to convene in an accessible location on another floor or in a different building. Special settings, however, with equipment fixed in place do not lend themselves to such flexibility. The degree of their accessibility is therefore of particular cogency.

COURSE'S WORK ENVIRONMENT:

These questions refer specifically to the non-lecture hall aspects of vocational training.

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING:

A general cautionary note: The percentage of physical demands in the practical academic setting depicted here may not parallel the proportion of physical effort required in the job world because a normal academic selection of required reading courses with their sedentary qualities may disguise the preponderantly physical nature of the occupation, throwing percentages off. Yet it is important to realize that many different jobs exist in the same field and that in some, the degree of demand may actually be less rather than more in a crucial area. Further investigation by the interested student is warranted. At any rate, one must recognize that the results here may represent the curricular reality while differing from that of the marketplace.

PHYSICAL and PERSONALITY DEMANDS of COURSE'S OCCUPATIONAL TRAINING:

balancing
lifting
carrying
hand strength for grasping
manual dexterity

The ability to deal with books, pencils and pens (or substitute an appropriate mechanism) is assumed in these categories and is not considered of sufficient weight to be coded as a "yes" answer.

work together with others
work in isolation

work under supervision
work with discretion and judgement

Both of these pairs appear to have mutually exclusive components within them yet many answers indicated simultaneously positive responses. The apparent contradiction may be explained in either of two ways:

(1) The work may actually require one or the other at different times on the same job or
(2) Some jobs or job levels within the field may require one while different jobs or job levels within the same field may require only the other.
The important thing in either case is the knowledge that both possibilities exist.

THE WORK PLACE

Job Characteristics Chart

General

Several features of this chart require comment.

(1) Only a sample of possible jobs and the demands associated with them, as indicated in the Dictionary of Occupational Titles, is given.

(2) Wherever possible, an effort was made to indicate the variety of demand existing among different jobs in the same field.

(3) The choice of characteristics listed was dictated by the categories assessed by the D.O.T.

(4) In a number of instances, the D.O.T. did not yield job titles/descriptions/worker traits that were precisely analogous to the level or kind of position that should follow a two-year course of study. In these cases, a closely allied position or a position with similar work on a different level of responsibility (which should give a realistic picture of the required physical demands) was described.

(5) Occasionally, the Job Characteristics chart appears to disagree with comments under Worker Traits. The reason for this is that the former information comes from the Vocational Education Supplement to the D.O.T. which deals with the measurements of specific jobs while the Worker Traits data, drawn from Volume II of the D.O.T., are organized according to generally homogeneous job groups.

Specific

Physical Demand	– This phrase, as used by the D.O.T., refers to lifting, carrying, pushing and/or pulling at the following levels:
S	– Sedentary work: lifting 10 pounds maximum, mostly sitting, occasional walking and standing.
L	– Light work: lifting 20 pounds maximum, with significant amount of walking and standing.
M	– Medium work: lifting maximum 50 pounds with frequent lifting of objects up to 25 pounds.
H	– Heavy work: lifting maximum 100 pounds, with frequent lifting of objects up to 50 pounds.
V	– Very heavy work: lifting objects in excess of 100 pounds, with frequent lifting of objects weighing 50 pounds or more.
Stoop, Kneel	– Also includes crouching and/or crawling.
Reach, Handle, Finger	– Also includes feeling.
See	– The D.O.T. assumes normal visual ability and only indicates a "demand" for seeing if "a high degree of visual acuity" is required.

ACCOUNTING

These programs teach foundation accounting skills as needed in entry-level accounting, bookkeeping and allied positions in business, industry and financial institutions. Students are trained to work with figures, to record and interpret financial data and to analyze problems arising out of business transactions and records. General education courses plus specific accounting - amounting to about one-quarter to one-third of the total course load - make up the basic structure of these programs, which include, in addition, a varied number of accounting-related courses in subjects such as business management and communications, business law, data processing, business mathematics and perhaps statistics. The numerical and quantitative emphasis of the field is underscored by the fact that some colleges strongly recommend more than one mathematics course.

Graduates may find employment as junior accountants, bookkeepers, cost-accounting clerks, assistant auditors, tax examiner-trainees, payroll bookkeepers, and in many similar clerical level positions involving record keeping, information processing, reporting and analysis.

OFFERED AT:

Adirondack	*	Kingsborough	*
Alfred		LaGuardia	*
Borough of Manhattan	*	Mohawk Valley	*
Bronx		Monroe	
Broome		Morrisville	
Canton	*	Nassau	*
Cayuga	*	New York City	
Clinton		Niagara	
Cobleskill		Onondaga	
Columbia-Greene	*	Orange County	
Finger Lakes		Queensborough	*
Corning		Rockland	
Delhi		Schenectady	
Dutchess	*	Staten Island	*
Farmingdale		Suffolk/Selden	*
Fulton-Montgomery	*	Suffolk/Western	
Genesee	*	Sullivan County	
Herkimer		Tompkins-Cortland	*
Hudson Valley	*	Ulster	*
Jamestown		Westchester	*
Jefferson			

**full or partial response to questionnaire*

ACCOUNTING

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◒	●	◒	◒	●
RANGE	1/5	1/4	1/6	1/4	2/100	1/36	1/20	1/9
M.F.F.	3	1	0,1	0,1	30	0,1	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	39%	37%	2%	6%	13%	38%	6%	75%	75%
SOMETIMES	0	3%	37%	1%	0	0	1%	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative - oral?	exam alternative - take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	86%	100%	25%	63%	88%	100%	25%	44%	43%	14%	79%	44%	30%	65%	88%	68%	38%	29%	41%
SOMETIMES	2%	0	0	0	0	0	0	13%	10%	0	0	0	0	4%	0	3%	0	0	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	84%	32%	41%	75%	82%	77%	81%
SOMETIMES	1%	7%	7%	3%	5%	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor? →	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	16%	17%	50%	52%	100%	13%	6%	71%	87%	72%	8%	10%
SOMETIMES	0	0	0	9%	0	1%	6%	4%	1%	7%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	85%	0	3%	◕	1%	0	66%	6%	◕	29%	17%	17%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	76%	1%	0	1%	1%	1%	0	0	1%	0	2%	3%	10%	6%	22%	1%
SOME-TIMES	1%	1%	1%	0	0	0	0	0	0	0	1%	0	1%	0	2%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	28%	31%	3%	6%	29%	31%	22%	59%	21%	39%	70%	72%	34%	33%	65%	22%
SOME-TIMES	6%	5%	1%	2%	3%	1%	2%	5%	6%	6%	4%	8%	4%	10%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: keeping a "practice set" similar to a mini-accounting job with a set of books — journals, general ledger and subsidiary accounts receivable and accounts payable; gathering information from a business organization; writing term paper on New York State and New York City special income tax; four case problems in accounting; term paper on a corporation; drawing flow charts for data processing concepts; keypunching four programs; schematic diagrams; block diagrams; flow charts; decision tables; abstracting from accounting journals and articles; optional in-depth study of some phase of business law; writing business letters.

Special Settings: a room with projector and extra large tabletop desks for handling accounting forms; data processing laboratory; typing room with typewriters and posture chairs, room with keypunch machines and tele-typewriters connected to mini-computers in mathematics laboratory; keypunch laboratory; computer room.

Special Tools and Equipment: adding and calculating machines; hand calculators; cassettes and audio-visual material, including movies, for accounting and business courses; overhead projectors used in business workbook preparation.

Special Physical Demands: manual dexterity for operating calculating machine, record keeping, touch-typing, handling computers, keypunch and card deck; eye-hand motor coordination, visual and form perception for carrying out accounting process, drawing graphs, typing from text and other printed materials; interpreting data, charts, including colors; correcting accounting assignments from blackboard; following wall charts, reading computer response; working on detailed material for considerable time; preparing accounting work sheets, working on accounting problem assignments; compiling, recording, summarizing business data; following accounting routines for control.

Internships: "Full time students attend five study quarters and three internship quarters; our cooperative education department finds jobs and places students." (LaGuardia)

Professorial Comments: "The slant of this course (accounting and cost accounting) can be on 'managerial' or 'financial' side; currently we tend to emphasize the former because of employment trends and needs." "Approximately 40% of our graduates will seek employment upon completion of degree at this school"; "Students must like work with figures and problems; cost accounting requires a lot of homework, concentration, and study"; "Accounting problems are solved through discussion and communication in addition to mental analysis".

ACCOUNTING

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

In addition to requiring manual and finger dexterity, many jobs require numerical skill and the ability to spend lengthy periods on detailed work.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Bookkeeper, Audit Clerk, Jr. Accountant	Sedentary	Indoors			√		√	
Cost Account Clerk	Sedentary	Indoors			√		√	
Bank Teller	Light	Indoors			√	√	√	

JOB DESCRIPTIONS:

Bookkeeper, Audit Clerk, Junior Accountant: may verify and enter details of financial transactions, summarize details and enter details on separate ledgers and prepare reports to show statistics; may operate calculating machines.

Cost Accountant Clerk: computes production or sales cost on unit or total basis; examines records to obtain data for calculations; prepares reports showing total cost, selling price and profit.

Bank Teller: receives and pays out money; keeps records of money and negotiable instruments involved in various bank transactions; may use various office machines.

PROFESSIONAL ASSOCIATIONS:

National Association
of Accountants
919 3rd Avenue
New York, N.Y.
10022

American Institute
of Certified
Public Accountants
1211 Ave. of Americas
New York, N.Y.
10036

AGRICULTURAL ENGINEERING

AGRICULTURAL ENGINEERING: POWER and MACHINERY

In spite of differences in the titles of these programs, "Agricultural Engineering"; "Agricultural Power and Machinery", "Agricultural Engineering Technology" with a power and machinery concentration, there are considerable similarities between these programs which train technicians competent to install, operate, service or sell mechanized agricultural and light industrial equipment.

The curricula of Agricultural Engineering may consist of a range of basic courses or it may emphasize specialized options as at Cobleskill. The core course of instruction usually consists of classroom study of the theory of machine operation and practical experience in workshops where students gain technical skills in areas such as welding, hydraulics, final drives, transmissions, diesels and farm machinery. At Alfred, for example, there are various laboratories — in internal combustion, in ignition and carburetion and in welding and hydraulics — for student practice on engines and up-to-date farm machinery consigned by manufacturers. There is also a cooperative work experience plan that provides a ten-week work period for those lacking sufficient practical experience. Instruction in general management practices as needed for positions in farm equipment dealerships, parts and service companies or for starting a business is also likely to be included.

Work may be available as an equipment installer; light industrial or farm machinery mechanic; salesman, parts man or serviceman for a farm equipment dealership in allied fields.

OFFERED AT:

Alfred		Canton	
Cobleskill	*	Morrisville	

**full or partial response to questionnaire*

AGRICULTURAL ENGINEERING
AGRICULTURAL ENGINEERING: POWER and MACHINERY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◕	◕	●
RANGE	1/3	1/2	1/2	2/4	10/30	1/15	2/12	1/2
M.F.F.	2	1	1	4	18	0,1	[illegible],12	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	71%	33%	0	47%	100%	43%	0	0	0
SOME TIMES	0	7%	80%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative - oral?	exam alternative - take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◒	●	●	●	●	●	●	◕	●	●	●
YES	100%	100%	27%	60%	87%	100%	20%	87%	27%	47%	100%	67%	53%	87%	60%	60%	87%	13%	100%
SOME TIMES	0	0	0	0	0	0	0	13%	0	0	0	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	40%	7%	100%	100%	100%	100%
SOME TIMES	0	0	13%	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	87%	0	0	0	0	0	0	100%	100%	100%	0	47%
SOME TIMES	0	0	0	0	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	40%	0	53%	●	0	0	40%	53%	●	33%	7%	53%

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ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	13%	80%	67%	47%	47%	80%	67%	8%	47%	60%	60%	87%	80%	73%	80%	40%
SOME-TIMES	7%	7%	7%	13%	13%	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	◕	●	●	◕	●	●	●	●	●	●	●
YES	33%	33%	0	33%	40%	40%	40%	93%	53%	80%	100%	87%	60%	87%	20%	80%
SOME-TIMES	0	0	0	0	0	0	0	7%	0	0	0	0	0	13%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: disassembling and reassembling, measuring and troubleshooting a small engine; complete reconditioning of farm tractor; setting up, adjusting, repairing various field engines both in laboratory and out in field operation; testing, disassembling electrical components; sales presentation.

Special Settings: small engine laboratory with work benches, tools and ventilation system; laboratory for working with gas engines and tractors; laboratory for working with and around agricultural field machinery — balers, combines, plows, planters, forage harvesters; laboratory for working with diesel engines; workshop comparable to service shop in equipment and arrangement; drawing laboratory.

Special Tools and Equipment: as used in "hands on" work with small engines; lathe, valve grinder, hone; hoists, pullers, jacks; ploughs, cornpickers; electrical tools; fuel calibrating stands and other test equipment; electrical systems hand tools, repair tools, testing tools and equipment; drawing equipment.

Special Physical Demands: lifting and carrying school engines up to 100 pounds, other engines up to 200 pounds; also tractor and machinery components; motor coordination for all testing, meter readings, adjustments, installing electrical devices; eye-hand-foot coordination as for bracing with body or foot for leverage; dexterity for assembling and disassembling engines, handling nuts, bolts, washers, screws, small wrenches and screw drivers, applying solderless connectors to wires, stripping insulation from wires; visual and color perception for wiring, reading service manuals, diagrams, pictures, recognizing electrical hazards; establishing trade-in values.

AGRICULTURAL
ENGINEERING
AGRICULTURAL
ENGINEERING:
POWER and
MACHINERY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Salespeople should have facility with numbers and words, tact, drive and the ability to persuade. Mechanics need to learn and apply craft techniques and principles, be capable of independent judgement, maintaining prescribed standards, and have good form perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Sales	Light	Indoors Outdoors			✓	✓	✓	
Farm Equipment Mechanic I	Medium	Indoors Outdoors	✓	✓	✓	✓	✓	
Farm Equipment Mechanic II	Medium	Indoors Outdoors	✓	✓	✓		✓	

JOB DESCRIPTIONS:

Sales: sells farm and garden equipment and supplies.

Farm Equipment Mechanic: maintains, repairs and overhauls farm equipment and vehicles.

PROFESSIONAL ASSOCIATIONS:

American Society of
Agricultural Engineers
2950 Niles Road
St. Joseph, Michigan
49085

ARCHITECTURAL TECHNOLOGY

(see also: CONSTRUCTION TECHNOLOGY, CIVIL TECHNOLOGY)

This program, sometimes given jointly with Construction Technology, trains architectural technicians and a variety of support personnel for professional architects and engineers. The architectural profession depends on such technicians and assistants to translate design and systems solutions into precise graphic and written specifications.

The curriculum usually includes training in such areas as drafting, cost and quantity estimating, graphic arts and construction specification.

Graduates are prepared to work as architectural technicians, draftsmen for architects and engineers, construction site supervisors or inspectors. They may also work for architectural or engineering product manufacturers preparing shop drawings or they may do surveying, materials testing or structural detailing.

OFFERED AT:

Delhi	*	Onondaga	*
Hudson Valley	*		

**full or partial response to questionnaire*

ARCHITECTURAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◒	◒	●
RANGE	2	1 / 4	1 / 2	2 / 3	40 / 100	1 / 3	10 / 20	1
M.F.F.	2	1	0,2	0,3	45	2	0,15	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	40%	20%	0	20%	100%	0	0	0	0
SOMETIMES	0	0	80%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative - oral?	exam alternative - take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	100%	100%	100%	40%	40%	100%	20%	80%	60%	60%	100%	60%	20%	80%	100%	100%	80%	80%	100%
SOMETIMES	0	0	0	0	0	0	0	20%	40%	0	0	0	0	0	0	0	20%	20%	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	40%	80%	100%	80%	100%	100%
SOMETIMES	0	20%	20%	0	20%	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	80%	0	0	0	0	0	0	80%	100%	80%	0	20%
SOMETIMES	0	50%	0	0	0	0	0	20%	0	20%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	0	0	80%	20%	●	20%	20%	60%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	100%	60%	20%	40%	20%	20%	0	0	20%	20%	40%	40%	80%	80%	80%	20%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
YES	20%	60%	0	60%	80%	20%	60%	80%	20%	40%	80%	60%	0	20%	80%	0
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	20%	40%	0	40%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: code analysis of a small building; visits to construction site and manufacturers; project on building materials, architectural design and detailing; graphics; erecting mock-ups of building structures; working drawings. Optional visits to construction sites and manufacturers.

Special Settings: construction laboratory; drafting room with drafting tables (34" high).

Special Tools and Equipment: equipment to test construction materials; building tools and equipment; drafting tables and implements – parallel edges, triangles, scales.

Special Physical Demands: in architecture-related course – manipulating drafting implements such as parallel edge; visual and form perception; eye-hand coordination; stretching to cover drafting board. In construction materials laboratory: lifting and carrying heavy objects – cubic foot, 150 pounds, cone cylinder of approximately 40 pounds, coordination and speed in materials testing.

Professorial Comments: "Work conditions vary greatly from office to office in architectural technician field"; "A student must be able to be part of the team"; "Working drawings are an integral part of this course"; "Special drafting areas could easily be set up if the need arises"; "Detailed drawings could be completed at home"; "Oral communication essential to this occupation but an interested person could overcome this".

ARCHITECTURAL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Jobs in this field can accommodate individuals with substantially different physical capacities. Work related to drafting is indoors and sedentary, whereas individuals seeking surveying positions should enjoy the outdoors, have physical stamina and be able, in some cases, to climb. Some jobs, especially inspection work, require verbal and numerical skills and spatial and form perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Draftsman	Sedentary	Indoors			✓		✓	
Surveyor I	Light	Indoors Outdoors			✓		✓	
Surveyor II	Light	Outdoors	✓		✓		✓	
Construction Inspector	Light	Indoors Outdoors	✓	✓	✓	✓	✓	✓

JOB DESCRIPTIONS:

Draftsman: assists the architect or engineer in the preparation of clear, accurate working plans and detail drawings for buildings and like structures.

Surveyor: surveys earth's surface to determine location and measurements of points, elevations, lines and contours of earth's surface to secure data for construction and other purposes.

Construction Inspector: inspects construction to insure that procedure and materials comply with specifications.

PROFESSIONAL ASSOCIATIONS:

American Institute
of Architects
1735 New York Ave. N.W.
Washington, D.C.
20006

Society of American
Registered Architects
180 N. Michigan Ave.
Suite 1710
Chicago, Illinois
60601

AUTOMOTIVE TECHNOLOGY

These programs prepare students to be technicians or line mechanics in the automobile service industry by teaching knowledge of the components of the automobile, their function and principle of operation and by giving practical shop experience in repairing and servicing automobiles.

The curriculum is likely to include training in maintenance, diagnosis, repair and rebuilding of the engine, chassis, power train, electrical and fuel systems as well as instruction in non-mechanical subjects such as management or labor-estimating.

Schools differ in the number of specialized automobile courses offered and in their inclusion or exclusion of general science, mathematics, educational and business courses. Thus New York City Community College includes engineering, drawing, industrial management, general chemistry; Morrisville includes auto dealership or salesmanship; Alfred offers a year of specialization in heavy equipment, truck and diesel service or in auto-body repair and refinishing. All schools appear to have automotive laboratories and vehicles for "live work".

Graduates may find employment as automotive mechanics or diagnosticians; parts salesmen; shop foremen; specialty mechanics or service technicians.

OFFERED AT:

Canton		Herkimer	
Corning	*	Hudson Valley	
Farmingdale	*	Morrisville	*
Fulton-Montgomery	*	New York City	

**full or partial response to questionnaire*

AUTOMOTIVE TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◕	◒	●
RANGE	1 / 5	1 / 1.5	1 / 5	2 / 6	10 / 75	1 / 17	2 / 20	1 / 2
M.F.F.	2	1.5	1	3	30	0,1	0,2	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	0	48%	0	21%	86%	0	0	0	0
SOMETIMES	0	3%	36%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	100%	97%	61%	79%	82%	94%	21%	64%	45%	33%	91%	45%	21%	45%	76%	67%	76%	24%	36%
SOMETIMES	0	0	0	0	0	0	0	27%	36%	0	0	0	0	12%	12%	0	0	0	6%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	79%	42%	61%	70%	79%	79%	85%
SOMETIMES	15%	3%	15%	21%	3%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	79%	23%	50%	8%	100%	33%	6%	70%	100%	64%	3%	6%
SOMETIMES	0	4%	0	0	0	0	6%	0	0	3%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	55%	0	36%	●	0	0	42%	48%	●	30%	18%	39%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	39%	67%	67%	52%	52%	82%	44%	22%	64%	73%	76%	76%	88%	82%	88%	67%
SOME-TIMES	0	0	0	12%	12%	0	19%	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	67%	82%	58%	58%	70%	73%	52%	94%	33%	58%	94%	76%	82%	21%	33%	48%
SOME-TIMES	0	3%	3%	3%	15%	0	12%	6%	0	3%	0	0	3%	6%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: cutting out and labeling auto parts; cut-away of an automobile component; hand and machine metal-forming project; metallurgy tests and reports; carburetor overhaul.

Special Settings: automotive garage-laboratory and vehicles for "live work"; automotive chassis and engine rebuilding laboratory; dealership setting; machine shop, foundry, bench facilities, heat treatment, x-ray and hardness-testing equipment; physics laboratory.

Special Tools and Equipment: live cars, trucks, mock-ups; hoists, brake lathes, wheel balancing, alignment machines, floor jacks; oscilloscope and vibration equipment; testing equipment for diagnosing malfunction; alternators, distributors, growlers; carburetor tools; cylinder boring bar, valve grinder, seat grinder; brake-service and fuel injection testing equipment; generator-alternator test benches.

Special Physical Demands: lifting, carrying, grasping automotive parts up to 150 pounds – batteries, generators, starters, carburetors, cylinder heads, engine blocks; manipulating large and very small parts in automotive and electrical systems; aligning and setting points; installing clutch hub, assembling ignition points and steering gears containing small ball bearings; adjusting controls, dials, knobs, switches; eye-hand-foot coordination essential for safety, diagnosis, service and road testing; discriminating color wear patterns, fit by tactile and form perception; stretching, reaching as in dashboard, exhaust and electrical work.

Professorial Comments: "Students spend 1.5 hours in classroom, 4.5 hours in laboratory per day; we use student foreman to simulate actual shop practice"; "Student must have mechanical dexterity"; "Number of projects completed rates high in course"; "Customer relations would make oral communication helpful but not necessarily essential"; "Students work in assigned groups and there is assistance in lifting, etc.".

AUTOMOTIVE TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Jobs in automotive sales have lighter physical demands than the mechanical positions, but they may require the ability to reach and handle (even though this is not indicated by the DOT), knowledge of credit and marketing, and effective person-to-person skills. It should be noted, too, that the mechanical positions have varying physical demands.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Mechanical-Maintenance Man	Medium	Indoors		√	√			
Automobile Mechanic	Medium	Indoors		√	√	√	√	
Front End Man	Light	Indoors		√	√		√	
Sales	Light	Indoors Outdoors			?	√		
Sales	Light	Indoors			√	√		

JOB DESCRIPTIONS:

Mechanical-Maintenance Man, Automobile Mechanic: inspects, repairs and maintains functional parts of automobile equipment.

Front-End Man: aligns wheels, axles, frames, torsion bars and steering mechanisms.

Sales: may sell new or used automobiles, automotive service products to garages, service stations and car dealers, or accessories and supplies in a store.

PROFESSIONAL ASSOCIATIONS:

Automotive Information Council
666 Fifth Avenue
6th Floor
New York, N.Y.
10019

National Institute for Automotive Service Excellence
1825 "K" St. N.W.
Ste. 515
Washington, D.C.
20006

BANKING, INSURANCE and REAL ESTATE

These programs provide students with a broad business background. Many of them are approved by the New York State Insurance Department as preparation for the New York State Agents and Brokers examination. Others are approved by the Division of Licensing Service as preparation for the Real Estate Brokers examination.

Not all schools offer all three study areas. Dutchess offers banking as an option within its business administration program. Sullivan also offers only banking, but with three time options: six-month and one-year certificate programs, and the two-year AAS program. Queensborough offers real estate-insurance as an option in its management curriculum.

Courses to be studied may include principles of accounting, investment and/or salesmanship; business law; business mathematics; office machines; money and banking; real estate; economics; elements of data processing; credit and corporation finance, typewriting and field work (Sullivan).

Jobs may be available with such titles as accounting clerk, auditor, broker, claims adjuster, casualty underwriter, investment counselor, insurance agent, real estate salesman, securities teller.

Eligibility for the New York State Civil service examination in banking generally requires a baccalaureate degree. For some positions responsible technical or supervisory experience may be substituted. Real estate brokers must pass a New York State licensing examination following an approved course of study and some work experience. Real estate salesman require no special schooling, but must pass an examination and be sponsored by, and then work under, a licensed broker. Insurance agents, brokers and adjusters are licensed by examination. Agents must be at least 18 years old; brokers must be 21 years old and have passed an approved course of study or have accumulated a satisfactory amount of work experience.

OFFERED AT:

Borough of Manhattan	*	Nassau	*
Canton	*	Queensborough	
Dutchess		Rockland	
Hudson Valley	*	Staten Island	
Jamestown		Suffolk/Selden	
LaGuardia		Sullivan County	*
Mohawk Valley	*	Westchester	

**full or partial response to questionnaire*

BANKING, INSURANCE and REAL ESTATE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◔	◔	◕	◔	◔	●
RANGE	2 / 4	1 / 3	1 / 6	1 / 6	10 / 50	1 / 2	5 / 15	1
M.F.F.	3	1	0,1	0,1	0,20	0,1	0,8	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	◒	→	→
YES	30%	21%	3%	18%	14%	26%	18%	0	43%
SOMETIMES	0	5%	47%	3%	0	0	3%	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative - oral?	exam alternative - take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	61%	61%	52%	39%	13%	78%	26%	39%	30%	26%	79%	29%	42%	63%	82%	61%	42%	21%	37%
SOMETIMES	0	0	0	0	0	0	0	4%	4%	0	0	0	0	3%	0	0	5%	5%	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	◕	●	●	●
YES	76%	34%	45%	74%	71%	82%	66%
SOMETIMES	0	8%	0	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor? →	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	11%	50%	50%	75%	100%	13%	5%	71%	84%	76%	16%	13%
SOMETIMES	0	25%	0	0	0	0	0	0	0	5%	0	0

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	74%	0	8%	◕	3%	0	63%	5%	●	50%	13%	13%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	74%	8%	3%	0	0	3%	100%	100%	0	0	0	0	3%	5%	5%	0
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	26%	8%	5%	5%	11%	13%	13%	47%	5%	21%	61%	61%	45%	47%	63%	29%
SOME-TIMES	3%	5%	0	5%	3%	0	0	8%	0	5%	3%	8%	5%	32%	0	0

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: analysis of commercial banks' annual reports; analysis of Wall Street Journal stock pages; visit to county clerk's office (Lawrence County) to see real estate records.

Special Settings: bank, computer center, business machines laboratory.

Special Tools and Equipment: calculators.

Special Physical Demands: dexterity to use calculator; tactile perception for cash handling; form perception to recognize distributions and curves on graphs.

Internships: at brokerage firms or other financial institutions.

BANKING,
INSURANCE
and
REAL ESTATE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Work in this field is often sedentary and rarely makes more than light physical demands. Frequently required is the ability to see (see introductory remarks) and converse, and verbal, analytical and numerical skills.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Loan Counselor	Sedentary	Indoors				✓		
Insurance Sales	Light	Indoors				✓		
Real Estate Agent	Light	Indoors Outdoors				✓		
Real Estate Appraiser	Sedentary	Indoors Outdoors			✓			

JOB DESCRIPTIONS:

Loan Counselor: analyzes loan contracts and attempts to obtain payment of overdue installments.

Insurance Sales: sells insurance to new and present clients recommending amount and type of coverage based on client's circumstances.

Real Estate Agent: rents, buys and sells property for clients on a commission basis.

Real Estate Appraiser: appraises improved or unimproved real estate property to determine its value for purchase, sale, investment, mortgage, or loan purposes.

For additional information on Civil Service examination in banking call (212) 488-2385; about insurance licenses, contact Mr. E. Joseph Smith, Director of Licensing Services, State Insurance Department, Agency Building One, Empire State Plaza, Albany, N.Y. 12223; about real estate licensing, contact Division of Licensing Services, 162 Washington Avenue, Albany, N.Y. 12231.

PROFESSIONAL ASSOCIATIONS:

American Institute
of Banking
1120 Connecticut Ave. N.W.
Suite 515
Washington, D.C.
20036

Insurance Institute
of America
Providence & Sugartown
Roads
Malvern, Pennsylvania
19355

National Association
of Realtors
155 E. Superior St.
Chicago, Illinois
60611

BIOLOGICAL TECHNOLOGY

(see also: CHEMICAL TECHNOLOGY)

Biological Technology is designed to prepare students to accept positions on a technician or assistant level in biological, medical, pharmaceutical or environmental laboratories with responsibilities for testing, analyzing, research assisting or biologically-related work.

The curricula of these programs are likely to consist of basic educational courses (including technical mathematics or statistics) plus a range of biology, chemistry, physiology and microbiology courses and practical experience in laboratories learning biological techniques and bio-laboratory instrumentation. North Country has required clinical laboratory practicum in the summers with options in medical, research, environmental health and industrial technology. Farmingdale has a specialized second year with elective sequences in biological research, environmental protection, pest control, oceanology and laboratory research.

Jobs may be found as laboratory technicians or assistants; research assistants; biological laboratory technologists or histologists in industrial public health, medical or university research settings.

OFFERED AT:

Cayuga		New York City	
Farmingdale	*	North Country	
Kingsborough		Sullivan County	

**full or partial response to questionnaire*

BIOLOGICAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◒	◒	●
RANGE	1 / 2	1 / 2	1	2 / 4	15 / 100	2 / 10	5 / 12	1
M.F.F.	2	1	1	3	15	0,2	0,9	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	71%	13%	0	0	0	0	0	0	0
SOMETIMES	0	0	50%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative - oral?	exam alternative - take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	88%	100%	29%	0	43%	100%	0	71%	29%	25%	75%	25%	38%	50%	88%	75%	38%	38%	50%
SOMETIMES	0	0	0	0	0	0	0	0	29%	0	0	0	0	0	13%	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	88%	13%	25%	75%	88%	88%	75%
SOMETIMES	0	13%	0	0	13%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	100%	13%	0	63%	100%	50%	25%	88%	63%	63%	13%	13%
SOMETIMES	0	0	0	13%	0	0	13%	13%	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	75%	0	25%	●	0	0	75%	25%	●	75%	0	13%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	75%	38%	13%	25%	0	88%	57%	29%	38%	63%	100%	88%	100%	63%	100%	25%
SOME-TIMES	13%	13%	0	13%	13%	0	0	0	0	13%	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
YES	63%	88%	38%	75%	88%	88%	50%	88%	75%	75%	100%	100%	13%	63%	50%	38%
SOME-TIMES	0	0	0	0	13%	13%	0	0	0	0	0	0	0	0	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: protocol for biological experiment; laboratory experiments; greenhouse visit for plant treatment; seed germination and specimen identification projects.

Special Settings: biological laboratory; special microscope slide preparation laboratory.

Special Tools and Equipment: laboratory apparatus – microscope, glassware, balances, dissecting equipment; equipment for micro-techniques – ovens, warming tables, microtomes, staining jars; bioanalytical instruments – micropipettes, syringes, centrifuge, balance, chromatography chamber; plant pathology instruments – propane burners, bacterial loops.

Special Physical Demands: lifting and carrying laboratory equipment weighing from 1 to 50 pounds – microscopes, microtomes, tubes, tanks, chambers, columns; manipulating very small objects as in microscope slide and fungal plate preparations; handling very delicate cultures, tiny insects; weighing out minute quantities; dispensing with micropipettes, using forceps, droppers, applicators, syringes, propane burners; read test instruments; observing responses, color reactions; assaying density in solutions; working up to three hours in crowded busy laboratory on cultivating, isolating, staining and observing cultures.

Professorial Comments: "Visually handicapped might find microscopes difficult though not impossible".

BIOLOGICAL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should have good academic background, facility with mathematics, be able to give attention to detail, and have sufficient form perception to distinguish differences in materials.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Laboratory Technician (Veterinary)	Light	Indoors			✓		✓	
Biological Aide (agriculture)	Medium	Indoors Outdoors						

JOB DESCRIPTIONS:

Laboratory Technician: prepares vaccines, biologicals and serums for, in the case of veterinary work, the prevention of animal diseases.

Biological Aide: aids research workers to carry out experiments in bacteriology, plant pathology, mycology and other biological and agricultural science.

PROFESSIONAL ASSOCIATIONS:

American Institute of
Biological Science
1401 Wilson Blvd.
Arlington, Virginia
22209

International Society for
Clinical Laboratory
Technology
805 Ambassador Bldg.
411 N. Seventh
St. Louis, Missouri
63101

BUSINESS ADMINISTRATION

(see also: ACCOUNTING)

These programs (that may also be called Business Management) are offered on a two-track system with an Associate in Science (A.S.) degree that is primarily transfer oriented for those who plan to continue their education at a senior college and an Associate in Applied Science (A.A.S.) degree that is occupationally oriented for those preparing for entry to mid-level positions in business office management, purchasing, sales, accounting and related business jobs. Some schools offer either an A.S. or an A.A.S. program; some offer both. The A.A.S. business administration curricula are usually structured to include a number of groundwork general education courses; a required core of business management courses such as introductory economics, accounting, business mathematics and business law, supplemented by electives that allow the student to concentrate on some special aspect of this field – marketing, retail sales, accounting, general finance, management or insurance. Some schools include field trips to businesses and visits by managers and administrators. Titles of representative jobs may include those of management trainee, personnel assistant, claims approver, bookkeeper, cost clerk or business expeditor.

OFFERED AT:

Adirondack	•	Hudson Valley	•
Alfred	•	Jamestown	
Borough of Manhattan		Jefferson	
Bronx		Kingsborough	•
Broome		Mohawk Valley	•
Canton		Monroe	•
Cayuga	•	Morrisville	
Clinton		Nassau	•
Cobleskill	•	Niagara	
Columbia-Greene	•	North Country	•
Finger Lakes		Onondaga	•
Corning	•	Orange County	
Delhi	•	Queensborough	•
Dutchess	•	Rockland	
Erie/City		Schenectady	
Erie/North	•	Suffolk/Selden	•
Erie/South		Suffolk/Western	
Farmingdale	•	Sullivan County	
Fulton-Montgomery	•	Tompkins-Cortland	•
Herkimer		Ulster	•

*_full or partial response to questionnaire_

BUSINESS ADMINISTRATION

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◔	●	◒	◒	●
RANGE	1/18	1/3	1/6	1/3	1/100	1/36	1/30	1/9
M.F.F.	3	1	0,1	0,1	30	0,1	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	50%	40%	4%	9%	0	42%	1%	100%	100%
SOMETIMES	2%	4%	53%	0	0	0	1%	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative- oral?	exam alternative- take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	88%	63%	40%	36%	11%	64%	22%	32%	43%	4%	82%	47%	30%	63%	83%	72%	46%	57%	51%
SOMETIMES	1%	0	0	0	0	0	0	11%	28%	0	0	0	0	4%	1%	1%	6%	6%	4%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	88%	35%	48%	81%	84%	78%	81%
SOMETIMES	1%	9%	7%	1%	4%	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	9%	8%	0	54%	100%	16%	27%	78%	85%	71%	7%	8%
SOMETIMES	0	0	0	0	0	1%	4%	3%	2%	6%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	73%	0	5%	◕	2%	0	51%	9%	◕	24%	17%	17%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	71%	1%	1%	1%	1%	3%	1%	1%	1%	0	1%	2%	7%	1%	15%	1%
SOME-TIMES	2%	1%	1%	0	0	0	0	0	0	0	0	0	1%	0	2%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	33%	23%	1%	6%	23%	24%	14%	56%	23%	29%	58%	63%	31%	29%	64%	20%
SOME-TIMES	5%	5%	1%	3%	4%	0	1%	5%	4%	7%	9%	9%	8%	9%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: optional in depth study of some phase of business law; "term practice set" – keeping set of books for short period; accounting project; collecting, assembling, presenting information on three companies; job search project; visiting communication center; analyzing business administration cases; library search; public speaking practice; interviewing managers and administrators in financial institutions; surveying statistical literature for report; computer simulation; business market and production decision making project, investigating operation of marketing firm.

Special Settings: computer to operate business simulation; typewriters, audio visual teaching machines; calculators; television for taping speeches to be replayed and criticized by speaker, teacher and audience.

Special Physical Demands: eye-hand motor coordination and manual dexterity for response equipment, recording figures neatly in very small spaces, using accounting forms, schedules, papers, writing journals, reports, statements, transferring data; using audio visual teaching machines to collate own workbook; form perception for perceiving relationships of statistical distribution, revenue and cost and supply and demand curves, graphs, models; working protracted periods of time on solving mathematical, logical and accounting problems, entering financial information on accounting forms.

Professorial Comments: "50% of our students transfer; 50% go immediately to work"; "We simply do not reflect the attributes of a business office in our classrooms"; "The pressure in terms of time, deadlines, good will are not so markedly present in course as in occupation (Business Communication course)"; "We do not use electronic calculators, but they may be used in business (Kingsborough, Business course)".

BUSINESS ADMINISTRATION

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

The traits associated with jobs in this field are the ability to plan and implement policies and programs, verbal facility and the capacity to motivate and deal with people effectively.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Administrative Assistant	Light	Indoors				✓		
Office Manager	Sedentary	Indoors				✓		
Personnel Clerk Supervisor	Sedentary	Indoors			✓	✓	✓	

JOB DESCRIPTIONS:

Administrative Assistant: aids exective in staff capacity by coordinating services.

Office Manager: supervises and coordinates activities in centralized clerical functions of organization.

Personnel Clerk Supervisor: supervises and coordinates activities of workers engaged in compilation and maintenance of personnel records.

PROFESSIONAL ASSOCIATIONS:

National Business
Career Center
3839 White Plains Road
New York, N.Y.
10467

CHEMICAL TECHNOLOGY

These programs train chemical technicians to assist senior research chemists and chemical engineers in research, analysis, production and sales.

The curricula of these programs provide instruction in the theoretical and practical concepts of chemistry, and to a lesser extent, in mathematics and physics. Courses cover areas such as general and organic chemistry, quantitative analysis, physical and industrial chemistry and instrumental analysis. Emphasis is given to laboratory techniques, such as solution preparation, analytical methods, instrumentation, graphic and statistical treatment of test data. Some schools (New York City and Bronx) also provide an option to specialize in pre-pharmacy leading to the third year of a College of Pharmacy.

Graduates may find employment in chemical or pharmaceutical laboratories in industry, government, educational and medical institutions as quality control technicians, research technicians, product evaluators, junior chemists, analysts or engineering aides.

OFFERED AT:

Alfred	*	Farmingdale	
Bronx	*	Hudson Valley	*
Broome		New York City	
Cayuga		Onondaga	*
Corning	*	Orange County	
Dutchess		Westchester	*
Erie/North	*		

**full or partial response to questionnaire*

CHEMICAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◒	◒	●
RANGE	1 / 4	1 / 1.5	1 / 2	1 / 6	5 / 100	1 / 15	1 / 20	1 / 4
M.F.F.	2	1	1	3	25	0,4	3	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	59%	30%	0	7%	33%	33%	9%	100%	0
SOMETIMES	2%	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams - extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	37%	76%	70%	43%	68%	73%	43%	76%	59%	28%	93%	51%	35%	88%	88%	91%	58%	53%	88%
SOMETIMES	0	0	0	0	0	0	0	8%	8%	0	0	0	0	2%	5%	2%	0	0	2%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	93%	58%	37%	84%	84%	72%	95%
SOMETIMES	0	2%	0	7%	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	91%	54%	81%	67%	0	12%	21%	81%	93%	77%	9%	7%
SOMETIMES	0	0	0	3%	0	5%	12%	0	0	2%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	81%	0	0	◕	0	0	63%	5%	◕	19%	30%	14%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE / OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	51%	67%	49%	9%	5%	74%	25%	13%	16%	28%	58%	70%	82%	70%	86%	21%
SOME-TIMES	0	0	0	2%	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	28%	77%	21%	72%	67%	51%	26%	79%	21%	35%	77%	79%	21%	7%	51%	26%
SOME-TIMES	0	0	0	0	0	0	0	5%	5%	7%	5%	7%	7%	5%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: analytical determination of some chemical material, various laboratory experiments; library project; studies in air pollution utilizing absorption spectrophotometry; developing and running computer program.

Special Settings: chemistry laboratory; analytical laboratory; physics laboratory; quantitative laboratory; standard twenty-five station organic chemistry laboratory; laboratory with high benches; fume hoods, hot plates for working with forceps and beakers of acid; room with computer terminal.

Special Tools and Equipment: varied analytical chemistry equipment; laboratory glassware for liquids and gasses; general chemistry laboratory equipment — bunsen burners, hoods, balances, burets, ringstands, hot plates, reagents; computer-aided instruments with readouts.

Special Physical Demands: lifting and carrying chemical apparatus up to 20 pounds; grasping and manipulating varied and sometimes delicate and intricate laboratory equipment — glassware, syringes, vials, bunsen burners, tongs, test tubes, holders; working with desiccator or volumetric flasks; operating instrument dials, switches, valves; filling burets and capillaries with solutions; pouring liquids into narrow crucibles; connecting glassware; weighing on analytical balance; working at hot plate; using pipettes, test tubes; handling clamps, burets, flames; visual, color, tactile and form perception for observing structural qualities, reactions, color changes; reading meters, liquid levels, seeing precipitates, gauging temperature changes, judging safety, performing long sequence of operations in laboratory.

CHEMICAL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Technicians should have good academic background, facility with mathematics, be able to give attention to detail, and have sufficient form perception to distinguish differences in materials.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Chemical Laboratory Technician	Light	Indoors			✓		✓	

JOB DESCRIPTIONS:

Chemical Laboratory Technician: conducts chemical and physical laboratory tests and makes quantitative and qualitative analyses.

PROFESSIONAL ASSOCIATIONS:

American Chemical
Society
1155 16th St. N.W.
Washington, D.C.
20036

American Institute
of Chemical Engineers
345 E. 47th St.
New York, N.Y.
10017

CHILD CARE

(see also HUMAN SERVICES, NURSERY EDUCATION)

The program titles within this field vary. Child care may encompass two overlapping areas of emphasis. There are schools that emphasize work with special children, for example, those in institutions. One such school is Nassau with a program for those interested in working with physically or emotionally handicapped children in children's centers and residential facilities. Other schools, e.g. Kingsborough, LaGuardia, Broome, emphasize the developmental growth of young children and train predominantly for work as assistant teachers in early childhood education in various pre-school facilities.

The curriculum of these programs may consist of liberal arts core courses, specialized courses in child development and child care techniques and related courses in subjects such as art and music activities, motor development, the psychological disorders of children, group living theories and optional courses in conversational Spanish, nutrition or the atypical child.

Work with children is a crucial part of all these curricula which include a great variety of such field work. LaGuardia has a thirteen week part-time internship for each of six quarters with a coordinated seminar; Kingsborough has an assigned supervised working experience; Broome has a practicum emphasizing self-evaluation; Staten Island and Dutchess offer experience at cooperating local institutions. Some schools permit part-time study for employed students and many give credit for experience.

Graduates may work as day-care assistants, cottage or house parents, assistant teachers, teacher aides or children's supervisors in a variety of institutions.

OFFERED AT:

Farmingdale	*	Suffolk/Selden	
New York City		Ulster	

**full or partial response to questionnaire*

CHILD CARE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	●	◔	◔	◕	◕	◕	◕
RANGE	1 / 3	1 / 5	1	1 / 3	2 / 50	1 / 20	1 / 10	1 / 9
M.F.F.	2	1	1	0,2	0,30	0,1	0,4	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→		●	→	
YES	72%	46%	8%	62%	6%	100%	46%	92%	66%
SOME-TIMES	0	0	46%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→						●	●	●	●	●	●	●	●	◕	●	●	●
YES	85%	73%	41%	95%	18%	73%	64%	32%	32%	38%	88%	54%	8%	69%	50%	65%	77%	23%	54%
SOME-TIMES	0	0	0	0	0	0	0	5%	27%	0	0	0	0	0	19%	0	0	0	27%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	◕	◕	◕	◕	●	●
YES	100%	23%	38%	69%	69%	77%	65%
SOME-TIMES	0	12%	4%	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→		→		●	●	●	●	●	●	●
YES	46%	17%	100%	42%	0	19%	0	73%	81%	77%	0	31%
SOME-TIMES	0	42%	0	0	0	4%	0	19%	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	27%	0	38%	◕	0	0	50%	12%	◕	12%	15%	23%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◒	●	●	●	→	→	◕	●	●	●	●	●	●	●
YES	62%	38%	12%	38%	42%	42%	23%	54%	15%	35%	31%	15%	42%	38%	42%	19%
SOMETIMES	0	0	0	3%	4%	8%	8%	7%	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	◕	●	●	◕	●	●	●	●	●	●	●
YES	50%	46%	7%	15%	42%	19%	4%	88%	0	62%	85%	85%	15%	65%	38%	31%
SOMETIMES	0	0	0	0	0	4%	19%	4%	0	4%	0	0	4%	4%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: working at day-care centers; neighborhood home or school; visits to children's center; participating in class workshop; evaluating work with pre-school children; observing children in pre-school settings; workshops developing materials for exceptional children; observing and analyzing classroom management and organization; a child case study; behavior modification report; keeping diaries of child care observations in pre-school setting; panel discussions; book reviews; discussion of films and case studies.

Special Settings: art and music workshop; seminar facility, room for small group workshops.

Special Tools and Equipment: various art media; early childhood equipment; psychological performance tests of various types.

Special Physical Demands: carrying children's equipment; manipulating materials for young children – puzzles, pegs, beads; moving for and with young children; getting around busy pre-school classroom; bending, crouching, using fast reflexes; helping with all learning materials; visual perception for constant attention to children; tactile and form perception in many learning situations; verbal skills for safety, communication, teaching.

Internships: both public and private. (See previous page.)

CHILD CARE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers in the field must be patient, sympathetic and effective in dealing with people. Although the DOT indicates indoors as the setting for a nursery school teacher and does not indicate stooping and kneeling as requirements, it is probably reasonable to assume that some nursery school activities will take place outdoors and that jobs involving small children will include some stooping and kneeling.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Nursery School Teacher	Light	? Indoors		?	✓	✓		
Child Care Attendant (school)	Medium	Indoors		✓	✓	✓	✓	

JOB DESCRIPTIONS:

Nursery School Teacher: organizes and leads activities of pre-kindergarten children in nursery schools or playrooms.

Child Care Attendant (School): attends to personal needs of handicapped children while in school.

PROFESSIONAL ASSOCIATIONS:

National Association for
Child Development
& Education
500 12th St. S.W.
Suite 810
Washington, D.C.
20024

Day Care & Child
Development Council
of America
1012 14th St. N.W.
Washington, D.C.
20005

CIVIL TECHNOLOGY

(see also: ARCHITECTURAL TECHNOLOGY,
CONSTRUCTION TECHNOLOGY)

These programs train students to assist professional and supervisory personnel such as engineers, architects, construction supervisors, contractors and surveyors in work associated with transportation systems, industrial and high-rise structures, dams and other engineered systems. At Delhi, the program is separated into structural and highway sequences.

Courses may cover such subjects as engineering materials; methods and graphics; structural theory and applications; land and route surveying; highway design and construction; hydraulics and soil mechanics; architectural drafting; materials testing; mathematics and physics.

Jobs may be available in drafting, materials testing, surveying, sales of building materials and equipment and inspecting.

OFFERED AT:

Broome		Nassau	*
Canton		Suffolk/Selden	*
Delhi	*	Sullivan County	
Erie/North	*	Westchester	*
Mohawk Valley	*		

**full or partial response to questionnaire*

CIVIL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◕	◕	◕	◔	◔	◕
RANGE	1/4	1/3	1/2	2/3	8/50	1/12	1/100	1/6
M.F.F.	0,2	1	0,1	0,2.5	0,10	0,1	0,30	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	◕	◕	●	→	→	●	→	→
YES	35%	22%	0	17%	33%	17%	8%	100%	100%
SOME-TIMES	0	0	22%	3%	0	17%	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	◕	◕	◕	◕	◕
YES	92%	85%	53%	33%	62%	68%	9%	29%	26%	14%	72%	30%	19%	58%	64%	61%	24%	31%	44%
SOME-TIMES	3%	0	0	0	0	0	0	3%	24%	0	0	0	0	0	0	0	0	0	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	◕	●	●	◕	●	◕	◕
YES	56%	36%	39%	61%	69%	67%	64%
SOME-TIMES	0	3%	11%	0	6%	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	◕	●	●	●	●	●	●
YES	64%	35%	78%	42%	82%	11%	3%	67%	78%	69%	0	22%
SOME-TIMES	3%	8%	0	0	0	0	0	3%	0	0	0	0

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	39%	0	39%	●	0	0	42%	33%	◕	19%	25%	25%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	64%	47%	28%	39%	31%	50%	44%	17%	19%	36%	44%	61%	78%	64%	81%	33%
SOME-TIMES	3%	3%	3%	0	0	0	0	0	0	3%	0	0	0	0	0	3%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	28%	58%	19%	42%	31%	33%	14%	81%	31%	39%	89%	75%	25%	28%	64%	31%
SOME-TIMES	0	0	3%	3%	6%	6%	6%	0	0	0	6%	3%	6%	61%	0	0

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: surveying out-of-doors with transit; visit to commercial construction project, followed by report with photographs; drawings made with drafting tools; term paper; weekly laboratory reports; minor research with new products and techniques; field work.

Special Settings: drafting rooms; chemistry, physics and materials testing laboratories; outdoor surveying laboratories.

Special Tools and Equipment: drafting equipment such as T-squares, triangles, compasses, blue print machine; slide rules; calculators; sheet metal machinery; press brake; squaring shear; transits; levels; steel tapes; planimeter; sledge hammer; stakes; soil testing equipment; laboratory glassware; spectrophotometer.

Special Physical Demands: dexterity to manipulate equipment listed above; strength to lift equipment weighing up to 100 pounds, including concrete cylinder weighing 35 pounds, hammering stakes, cranking; stretching to measure heights and reach across large drawings; eye-hand coordination for soil testing; eye-hand-foot coordination to operate sheet metal machine; ability to climb rough terrain; visual, form and tactile perception to recognize standard industrial shapes, soil analysis, see surveying targets, measurements and hand signals.

CIVIL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

The range of physical demands goes from sedentary to requirements in some jobs to lift objects weighing up to fifty pounds. Positions in surveying sometimes demand a great deal of physical stamina and the ability to climb. Frequently needed, too, is some understanding of engineering and mathematics, as well as verbal and numerical skills, and form and spatial perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Surveyor	Light	Outdoors	√		√	√	√	
Surveyor, Deputy	Light	Indoors Outdoors			√	√	√	
Draftsman	Sedentary	Indoors			√		√	
Construction Inspector	Light	Indoors Outdoors	√	√	√	√		

JOB DESCRIPTIONS:

Surveyor: surveys earth's surface to determine exact location and measurements of points, elevations, lines, areas and contours for data to be used for construction, maps and other purposes.

Draftsman: prepares clear, accurate working plans and detail drawings for engineering and manufacturing purposes.

Construction Inspector: inspects and oversees construction to insure that procedures and materials comply with specifications.

PROFESSIONAL ASSOCIATIONS:

American Society of
Civil Engineers
345 E. 47th St.
New York, N.Y.
10017

COMMUNITY MENTAL HEALTH TECHNOLOGY

(see also: HUMAN SERVICES, COMMUNITY SERVICE ASSISTANT)

Community Mental Health Technology is usually given as a separate program, but in one instance (LaGuardia), it is an area of concentration within Human Services and in another instance (Manhattan), it is a concentration within Allied Health Sciences.

These programs prepare students to assist medical, nursing and guidance personnel in the rehabilitation of the mentally disabled. Graduates are prepared to work – often as members of a therapeutic team – in settings such as community mental health centers, neighborhood clinics, social service agencies, or in general hospitals with psychiatric departments.

The varied background of the community mental health movement is reflected in the widely ranging courses of this field. Apart from basic English, biology or mathematics courses, these programs may include courses in the social sciences and contemporary problems, as well as psychology, social work and mental health courses that emphasize skills and techniques in the therapeutic fields (courses in subjects such as group dynamics, counseling and guidance, interviewing and appraisal, group leadership techniques and recreational therapies). The number of options and the level of specialization, especially in mental health and psychology courses, varies considerably between schools.

An important requirement of these programs is that students must participate in supervised internships or field work, sometimes integrated with classwork and seminar discussion groups.

A graduate may work as a rehabilitation aide, casework aide, interviewer, outreach worker, mental health therapy aide, drug counselor, and in similar related positions.

OFFERED AT:

Borough of Manhattan	*	LaGuardia	*
Dutchess	*	North Country	
Kingsborough	*	Sullivan County	

**full or partial response to questionnaire*

COMMUNITY MENTAL HEALTH TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◒	◕	◕	◕	●
RANGE	1/3	1/2	1/3	1/6	2/50	1/15	1/8	1/9
M.F.F.	2	2	0,1	0,4	0,30	0,1	0,5	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	33%	74%	0	21%	0	75%	37%	86%	86%
SOMETIMES	0	0	53%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	◕
YES	79%	33%	13%	73%	27%	47%	47%	33%	13%	5%	95%	79%	0	74%	79%	68%	84%	21%	42%
SOMETIMES	0	0	0	0	0	0	0	0	13%	0	0	0	0	0	0	0	0	0	10%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	95%	32%	47%	79%	95%	89%	84%
SOMETIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	◕	●	●
YES	37%	71%	40%	100%	71%	0	0	84%	84%	74%	0	5%
SOMETIMES	0	0	0	0	0	5%	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	58%	0	37%	◕	0	0	53%	16%	◒	5%	16%	26%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	74%	32%	5%	16%	11%	32%	14%	14%	32%	32%	32%	42%	37%	42%	42%	32%
SOME-TIMES	0	0	0	0	0	5%	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	68%	37%	32%	32%	26%	37%	5%	84%	16%	68%	84%	74%	0	58%	53%	32%
SOME-TIMES	0	0	0	0	5%	5%	11%	5%	0	5%	0	0	0	5%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: observing children in pre-school setting; visiting agencies such as a hospital; a critique of a mental health practicum session; a seven-day diary on defense mechanisms; a teaching project using "the creative therapies"; a project to use with mentally disturbed or retarded clients; preparing three role-played simulated lessons per semester; a detailed lesson; field practice working with clients in hospitals, workshops, schools; volunteering to work with disabled clients in a rehabilitation or mental health agency half a day per week for twelve weeks.

Special Settings: "a therapeutic environment" in a well-lit room with long tables, a piano, art supplies, running water; a room for a practicum in group sensitivity and self-awareness; a room equipped with videotape to record and playback role-playing session; laboratory for gross anatomy and physiology.

Special Tools and Equipment: printing press; modeling tools, paint brushes, scissors; psychological and performance tests of various kinds; dissecting tools for physiology laboratories.

Special Physical Demands: lifting and carrying children, chairs, toys, teaching material and science laboratory items – microscope, models, dissecting trays for basic science; hand grasping, dexterity for small object manipulation in therapeutic arts – cutting, drawing, painting, clay modeling; teaching muscular coordination and writing skills to retarded; moving, stretching, reaching in body movement exercises, acting out emotions, dancing; verbal, visual facility and stamina for observing, interviewing, evaluating, recording, testing, discussing, counseling and working with retarded and disturbed clients six hours a day.

Internships: see previous page.

COMMUNITY MENTAL HEALTH TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Important traits for the worker in this field are sympathetic attitude, verbal facility, tact and a confidence-inspiring manner. The DOT describes no jobs on a level appropriate for graduates of community college programs in this field, but assistants to psychologists and caseworkers will probably encounter the same physical and trait demands as the professionals under whom they work.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Psychologist, Counseling	Sedentary	Indoors				√		

JOB DESCRIPTIONS:

Psychologist (Counseling): provides individual and group counseling in schools, clinics, rehabilitation centers, etcetera.

PROFESSIONAL ASSOCIATIONS:

National Association of
Human Services
Technologies
1127 11th St.
Main Floor
Sacremento, California
95814

National Association for
Mental Health
1800 N. Kent St.
Rosslyn, Virginia
22209

COMMUNITY SERVICE ASSISTANT

(see also: COMMUNITY MENTAL HEALTH TECHNOLOGY, HUMAN SERVICES)

These programs prepare students to be general assistants to social workers in community, private or public social agencies.

The curriculum generally entails a course of study that includes general educational, social science and psychology courses related to the field and social work courses on subjects such as community organization, group and case work techniques, social welfare legislation. Typewriting and record keeping may also be included. Supervised work placements supplement the academic course work. New York City Community College has a community service practicum in which students' work at a social agency is reviewed in classroom seminars; Farmingdale requires field experience and Suffolk has community service laboratory requirements. Such requirements may be reduced or waived for students who already have considerable agency work experience.

Jobs may be available as case work aides, probation aide, medical social work assistant, community action aide, welfare assistant or neighborhood worker.

OFFERED AT:

Farmingdale	*	Suffolk/Selden	
New York City		Ulster	

**full or partial response to questionnaire*

COMMUNITY SERVICE ASSISTANT

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	◕	◕	◕	●
RANGE	1/2	1/1.5	1/3	2/6	12/50	2/8	4/20	1/5
M.F.F.	2	1	0,1	0,6	0,50	0,2	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	100%	57%	0	43%	33%	100%	0	0	0
SOME-TIMES	0	14%	71%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	71%	71%	71%	71%	57%	86%	0	57%	14%	0	100%	86%	14%	43%	86%	100%	100%	14%	43%
SOME-TIMES	29%	0	0	0	0	0	0	14%	14%	0	0	0	0	29%	0	0	0	0	29%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	43%	86%	43%	86%	86%	86%	100%
SOME-TIMES	29%	0	29%	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	◕	●	●	●
YES	43%	50%	0	0	0	71%	29%	57%	57%	86%	29%	0
SOME-TIMES	14%	25%	0	0	0	29%	14%	14%	14%	14%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	29%	0	57%	●	0	0	14%	57%	●	29%	0	57%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	◕	◕	●	→		●	●	●	●	●	●	●	●
YES	71%	57%	29%	0	0	43%	75%	75%	0	0	14%	29%	14%	0	14%	0
SOMETIMES	0	0	0	0	0	14%	25%	25%	0	0	0	0	0	0	14%	14%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	57%	29%	0	29%	0	14%	0	86%	14%	86%	86%	86%	29%	71%	14%	57%
SOMETIMES	0	14%	0	14%	29%	29%	29%	0	0	0	0	0	29%	0	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: visiting fifteen different agencies; using instruction center in library for tape cassettes; video-taping and reviewing interviews.

Special Settings: various unusual classroom-field situations; variety of settings – office, hospital, home.

Special Tools and Equipment: as needed in biology laboratory – microscopes, balance for weighing, preserved frogs for dissecting.

Special Physical Demands: carrying microscopes weighing up to eight pounds; motor ability to be moving, traveling, visiting, "on the go" for long periods; visual perception for observing, evaluating, interpreting clients, establishing rapport, hour-long interviewing; manual dexterity for biological laboratory – making wet-mounts, preparing blood slides, dissecting, diluting, balancing, using tweezers, pipettes, microscopes.

Internships: each student is assigned to a social welfare agency (Farmingdale).

Professorial Comments: "Student needs ability to work with all groups of individuals and be accepting of differences and not judgmental in attitude"; "Social workers must be able to project warmth, understanding and leadership";

COMMUNITY SERVICE ASSISTANT

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Important traits for the worker in this field are sympathetic attitude, verbal facility, tact and a confidence-inspiring manner. The DOT describes no jobs on a level appropriate for graduates of community college programs in this field, but assistants to psychologists and caseworkers will probably encounter the same physical and trait demands as the professionals under whom they work.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Psychologist, Counseling	Sedentary	Indoors				✓		
Administrative Clerk	Light	Indoors			✓	✓	✓	

JOB DESCRIPTIONS:

Psychologist, Counseling: provides individual and group counseling in schools, clinics, rehabilitation centers, etcetera.

Administrative Clerk: performs a variety of clerical duties using knowledge of systems and procedures; may interview clients.

PROFESSIONAL ASSOCIATIONS:

National Association of
Human Services
Technologies
1127 11th St.
Main Floor
Sacremento, California
95814

National Association for
Mental Health
1800 N. Kent St.
Rosslyn, Virginia
22209

CONSTRUCTION TECHNOLOGY

(see also: ARCHITECTURAL TECHNOLOGY, CIVIL TECHNOLOGY)

Architectural Technology and Construction Technology are related programs (given separately in some schools and jointly in others) that prepare students to be technical assistants in the architectural and construction fields. Students emerge from these programs with a basic knowledge of the use of construction materials and the methods and techniques of construction.

The curriculum may include courses in structural design, mechanics of materials, estimating, law and contracting as well as experiences in school construction laboratories working with concrete, wood and other construction materials.

On the job, the construction technician may find him- or herself assisting a construction contractor in project superintendence and inspection, in cost-estimating or in any of a number of intermediary positions between a professional and craftsman.

Graduates of these programs may hold positions with titles such as structural draftsman, surveyor, assistant estimator, engineering technician, expeditor, construction foreman, purchasing agent, reinforced concrete or structural steel detailer, materials tester, salesman of building materials and equipment.

OFFERED AT:

Delhi		Hudson Valley	
Erie/North	*	Monroe	
Farmingdale			

**full or partial response to questionnaire*

CONSTRUCTION TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◕	◕	◕	◔	◔	◕
RANGE	1/3	1/2	1/3	1/4	15/20	1	3	1
M.F.F.	0,1	0,1	0,1	0,4	0,20	0,1	0,3	0,1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◔	◕	◕	●	→	→	◕	→	→
YES	0	20%	0	20%	0	50%	0	0	0
SOMETIMES	0	0	0	10%	0	50%	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	◕	◕	◕	◕	◒	◕	◒	◒	◒	◕
YES	100%	80%	30%	30%	80%	80%	30%	40%	30%	20%	50%	50%	0	40%	40%	30%	0	30%	40%
SOMETIMES	0	0	0	0	0	0	0	10%	10%	0	0	0	0	0	10%	0	10%	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	◕	◕	◕	◕	◕	◕	◕
YES	50%	30%	40%	40%	50%	50%	50%
SOMETIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	◕	→	→	→	→	◕	◕	◕	◕	◕	◕	◕
YES	20%	29%	100%	0	0	10%	0	40%	60%	60%	10%	20%
SOMETIMES	10%	0	0	0	0	0	20%	10%	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	20%	0	70%	●	0	0	20%	70%	◒	10%	10%	20%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→		●	●	●	●	●	●	●	●
YES	70%	60%	80%	60%	60%	80%	63%	13%	70%	80%	80%	80%	80%	80%	90%	70%
SOME-TIMES	0	0	0	10%	10%	0	13%	0	10%	0	0	0	0	0	0	10%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	◕	●	◕	●	●	●	●	●	●	●
YES	60%	70%	20%	50%	50%	60%	0	90%	50%	70%	90%	60%	50%	60%	30%	70%
SOME-TIMES	10%	10%	10%	10%	20%	0	10%	0	0	0	10%	20%	10%	10%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: designing, fabricating and erecting of concrete forms; designing, batching, placing and curing concrete; surveying, "hand-on" projects in civil construction.

Special Settings: wood laboratory with outdoor construction laboratory-site; metal laboratory.

Special Tools and Equipment: all power equipment within a construction-wood laboratory; surveying instruments.

Special Physical Demands: lifting and carrying wood forms and concrete up to 150 pounds; block and brick up to 30 pounds, transit, steel tape; manipulating hand and power tools, knobs on survey instruments; tactile and form perception; stretching, reaching, eye-hand-foot coordination for constructing and materials testing; verbal, visual and motor facility for calling commands and numbers, giving and reading hand signals in surveying.

CONSTRUCTION TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Jobs in this field can accommodate individuals with substantially different physical capacities. Work related to drafting is indoors and sedentary, whereas individuals seeking surveying positions should enjoy the outdoors, have physical stamina and be able, in some cases, to climb. Some jobs, especially inspection work, require verbal and numerical skills and spatial and form perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Draftsman	Sedentary	Indoors			√		√	
Surveyor I	Light	Indoors Outdoors			√		√	
Surveyor II	Light	Outdoors	√		√		√	
Construction Inspector	Light	Indoors Outdoors	√	√	√	√	√	√

JOB DESCRIPTIONS:

Draftsman: assists the architect or engineer in the preparation of clear, accurate working plans and detail drawings for buildings and like structures.

Surveyor: surveys earth's surface to determine location and measurements of points, elevations, lines and contours of earth's surface to secure data for construction and other purposes.

Construction Inspector: inspects construction to insure that procedure and materials comply with specifications.

PROFESSIONAL ASSOCIATIONS:

Building Research
Advisory Board
2101 Constitution Ave.
Washington, D.C.
20418

National Constructor's
Association
1101 15th St. N.W.
Suite 1000
Washington, D.C.
20005

CRIMINAL JUSTICE

(see also: CRIMINAL JUSTICE: CORRECTIONS)

These curricula generally provide a blending of social sciences studies with professional training in criminal justice problems and procedures. Schools differ in the breadth of their programs; all offer police science, organization and administration in preparation for law enforcement careers while a number of them offer variously criminal and scientific investigation and security administration as well. Typical subject matter includes criminal law and procedure, community relations, sociology, psychology, criminology, organization and management and penology.

Graduates may find employment as security officers in business, industry and institutions in addition to investigative agencies and the police forces (local, state, federal). The latter require physical tests established by law.

OFFERED AT:

Adirondack		Monroe	
Broome		Nassau	*
Canton	*	Niagara	*
Cayuga		North Country	
Clinton		Onondaga	
Corning		Orange County	*
Dutchess	*	Rockland	*
Erie/North	*	Schenectady	
Farmingdale	*	Suffolk/Selden	
Genesee		Suffolk/Western	
Hudson Valley	*	Tompkins-Cortland	*
Jamestown	*	Ulster	*
Jefferson		Westchester	*
Mohawk Valley			

**full or partial response to questionnaire*

CRIMINAL JUSTICE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◔	◔	●	◒	◒	●
RANGE	1 / 5	1 / 3	1	1 / 3	12 / 150	1 / 20	1 / 30	1 / 5
M.F.F.	3	1	0,1	0,2	50	0,1	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	84%	50%	7%	14%	38%	63%	11%	100%	17%
SOME-TIMES	0	0	61%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	80%	70%	46%	67%	17%	70%	52%	72%	43%	18%	89%	46%	36%	68%	64%	75%	68%	54%	64%
SOME-TIMES	2%	0	0	0	0	0	0	4%	9%	0	0	0	0	0	5%	0	0	0	2%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	96%	45%	48%	77%	95%	84%	66%
SOME-TIMES	0	4%	2%	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	7%	0	0	0	0	21%	11%	91%	88%	79%	5%	13%
SOME-TIMES	0	0	0	0	0	0	9%	0	0	7%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	61%	0	16%	◕	0	0	50%	18%	◕	27%	18%	16%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	80%	7%	5%	4%	4%	21%	58%	42%	5%	5%	7%	12%	9%	5%	9%	2%
SOMETIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	◕	●	●	◕	●	●	●	●	●	●	●
YES	39%	18%	9%	13%	20%	23%	14%	71%	21%	52%	64%	79%	27%	62%	45%	41%
SOMETIMES	2%	2%	0	0	2%	0	2%	2%	0	2%	7%	0	2%	22%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: visiting a federal correctional facility (optional) and various local criminal justice facilities (mandatory); research for criminal justice system reform; riding with police officers as observers; positions in private retail security posts while studying; 2 days spent observing court operations in any criminal court; inmate studies of various types.

Special Settings: instructional center in library using 8mm projectors and tape cassettes; police science laboratory.

Special Tools and Equipment: photography paraphernalia, instruments for sketching scenes, fingerprinting materials, polygraph machine and charts, police forms, dissecting instruments, microscopes, tweezers, pipettes.

Special Physical Demands: required official physical qualifications for police corrections work; working under stress situations, rapid judgments must be made; lifting 35 to 50 pounds fairly routinely; dexterity in fingerprinting, plaster casting, recording investigative results; visual acuity and manual dexterity in forensic biology laboratory for preparing blood slides, making wet mounts; heavy public and verbal contact; tactile sensitivity in handling evidence, weapons, mechanical needles; walking, running, carrying heavy bodies indoors, outdoors in all weathers and locales; use of radio and telephone.

Internship: required by Niagara County Community College under public auspices.

Professorial Comments: "Physical impairment of any kind would eliminate prospects on the job market": "Civil Service requirements mandate that recruit be in better than 'normal' physical and mental condition".

CRIMINAL JUSTICE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Important traits for the worker in the field are knowledge of laws and regulations, sympathetic attitude, skill in relating to people on all levels and in adjusting to changing situations. Workers may be exposed to dangerous situations.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Correction Officer		Indoors (risk)			✓	✓	✓	
Patrolman, Guard	Medium	Indoors Outdoors			✓	✓	✓	
Police Sergeant	Light	Indoors Outdoors (risk)				✓	✓	
Security Officer	Sedentary	Indoors				✓		

JOB DESCRIPTIONS:

Correction Officer: guards inmates in penal institutions in accordance with established policies and procedures.

Patrolman, Guard: patrols assigned beat to control traffic, prevent crime or disturbance of the peace and arrests violators.

Police Sergeant: supervises and coordinates activities of squad patrolman.

Security Officer: develops security procedures for classified materials or data for commerical establishments or government agencies.

PROFESSIONAL ASSOCIATIONS:

American Society
of Criminology
1314 Kinnear Road
Columbus, Ohio
43212

American Federation
of Police
1100 N.E. 125th St.
North Miami, Florida
33161

CRIMINAL JUSTICE: CORRECTIONS

(see also: CRIMINAL JUSTICE)

These programs aim to provide both the understanding and the skills necessary to work effectively within the correctional system, generally in the areas of probation, parole, prison security and the juvenile court. The curricula are usually geared both toward those currently employed in the field and seeking advancement and students expecting to seek employment in the future. Because of the former, some schools offer evening hours. Entrance into this field demands meeting specific physical requirements, as well as undergoing an intensive background investigation.

Job offerings usually bear the following titles: probation officer, parole officer, prison security officer, juvenile court officer.

OFFERED AT:

Adirondack		Onondaga	*
Cayuga		Orange County	*
Dutchess		Ulster	*
Farmingdale		Westchester	*
Genesee			

**full or partial response to questionnaire*

CRIMINAL JUSTICE: CORRECTIONS

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	0	0	◕	◕	◕	●
RANGE	1 / 4	1 / 6	0	0	30 / 100	1 / 4	2 / 15	1
M.F.F.	1	1,2.5	0	0	50	1	10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	100%	78%	11%	33%	0	100%	28%	100%	20%
SOMETIMES	0	0	67%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	◕	●	●	●
YES	61%	97%	42%	67%	50%	83%	33%	50%	17%	33%	89%	28%	33%	78%	61%	56%	83%	83%	72%
SOMETIMES	6%	0	0	0	0	0	0	0	8%	0	0	0	0	0	0	0	0	0	5%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	94%	44%	33%	33%	94%	83%	56%
SOMETIMES	0	6%	0	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	28%	0	0	0	0	17%	0	72%	89%	78%	0	28%
SOMETIMES	0	20%	0	20%	0	6%	22%	6%	6%	11%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	39%	0	22%	◕	0	0	33%	22%	◕	6%	11%	39%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	83%	6%	11%	6%	6%	22%	0	0	0	17%	17%	22%	22%	22%	22%	22%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	◕	◒	◕	◕	◕	◕	◕	●	●
YES	72%	50%	28%	39%	33%	33%	28%	67%	6%	56%	28%	72%	22%	61%	33%	39%
SOME-TIMES	6%	6%	0	0	0	0	0	6%	17%	6%	6%	0	6%	6%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: voluntary visit to a federal correctional facility; field training practicum; vital field trips to area criminal justice facilities (often with no transportation provided) e.g. jail, courts, police headquarters, sheriff's laboratory, etc.

Special Settings: simulated police laboratory; darkroom.

Special Tools and Equipment: laboratory equipment, microscope, cameras, photo darkroom equipment.

Special Physical Demands: work performed on street in a variety of unpredictable and sometimes hostile environments, weather and sites; officers must see clearly, must have tactile sensitivity and dexterity in handling evidence, weapons, medicinal needs; physical agility and strength to span simple walking and carrying heavy bodies up and down stairs; writing routine summonses, citations; talking with clients and headquarters over telephone and radio.

Internships: required by Westchester Community College in a public correctional facility and by Onondaga which offers one on-the-job training course in community based (both public and private) placements.

Professorial Comments: "All the physical demands of the job cannot be simulated in school"; "We do not screen out any applicants but civil service requirements mandate that recruit be in better than 'normal' physical and mental condition."

CRIMINAL JUSTICE: CORRECTIONS

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Important traits for the worker in the field are knowledge of laws and regulations, sympathetic attitude, skill in relating to people on all levels and in adjusting to changing situations. Workers may be exposed to dangerous situations.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Correction Officer		Indoors (risk)			√	√	√	
Patrolman, Guard	Medium	Indoors Outdoors			√	√	√	
Police Sergeant	Light	Indoors Outdoors (risk)				√	√	
Caseworker	Sedentary	Indoors				√		
Security Officer	Sedentary	Indoors				√		

JOB DESCRIPTIONS:

Correction Officer: guards inmates in penal institutions in accordance with established policies and procedures.

Patrolman, Guard: patrols assigned beat to control traffic, prevent crime or disturbance of the peace and arrests violators.

Police Sergeant: supervises and coordinates activities of squad patrolman.

Caseworker: counsels and aids individuals and families requiring assistance of a social service agency.

Security Officer: develops security procedures for classified materials or data for commerical establishments or government agencies.

PROFESSIONAL ASSOCIATIONS:

American Correctional Association
4321 Hartwick Road
College Park, Maryland
20740

International Criminal Justice Association
162-15 Highland Ave.
Jamaica, N.Y.
11432

DATA PROCESSING

(see also: DATA PROCESSING: OPERATIONS)

At a few schools the data processing program is divided into two options. At Manhattan, LaGuardia and Genesee, for example, students may choose between programming and operations. At Alfred, they may choose between a science-oriented course of study and a business-oriented course of study, both encompassing programming and operations.

Generally, programs provide study experiences for careers as programmers, systems analysts and technicians for educational and scientific institutions, business and government which use computers to process, store, retrieve and display data efficiently and quickly.

Courses may include mathematics, statistics, accounting, business management, computer systems, programming, programming languages such as Cobol, Basic, BAL, RPG, Fortran and Assembly, data processing principles, problem-solving logic, computer operations and field work. Physics and calculus appear to be offered only as part of the science-oriented option at Alfred.

Graduates may find positions as junior programmers, computer operators, machine supervisors, research data analysts, coders or programming librarians.

OFFERED AT:

Adirondack		Jamestown	
Alfred		Jefferson	
Borough of Manhattan	*	Kingsborough	*
Bronx		LaGuardia	*
Canton	*	Monroe	*
Cayuga	*	Morrisville	
Cobleskill		Nassau	*
Corning		New York City	
Delhi		Niagara	
Dutchess		Orange County	
Erie/North	*	Queensborough	*
Farmingdale		Staten Island	
Fulton-Montgomery	*	Suffolk/Selden	*
Genesee	*	Tompkins-Cortland	*
Herkimer		Ulster	*
Hudson Valley		Westchester	*

**full or partial response to questionnaire*

DATA PROCESSING

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◒	◔	●
RANGE	1/5	1/3	1/4	1/8	2/500	1/24	2/30	1/9
M.F.F.	3	1	0,1	0,1	15	0,1	0,3	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	30%	39%	2%	2%	0	100%	9%	27%	82%
SOME-TIMES	0	2%	1%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	91%	63%	49%	16%	19%	57%	9%	46%	55%	13%	89%	41%	21%	57%	80%	76%	46%	35%	58%
SOME-TIMES	0	0	0	0	0	0	0	12%	8%	0	0	0	0	2%	2%	2%	4%	4%	1%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	89%	35%	42%	72%	84%	82%	81%
SOME-TIMES	2%	11%	7%	11%	2%	1%	1%

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	59%	36%	33%	45%	76%	12%	3%	89%	91%	71%	2%	13%
SOME-TIMES	0	5%	0	3%	0	1%	2%	1%	1%	2%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	89%	0	3%	●	0	0	77%	8%	●	36%	17%	24%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	80%	19%	4%	9%	2%	25%	74%	15%	1%	7%	18%	18%	35%	17%	52%	9%
SOME-TIMES	0	1%	0	1%	1%	2%	3%	0	0	0	1%	0	1%	0	1%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	20%	34%	2%	11%	37%	32%	16%	76%	32%	58%	76%	84%	34%	31%	49%	49%
SOME-TIMES	3%	2%	2%	2%	1%	2%	0	2%	1%	5%	2%	2%	4%	59%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: up to ten computer programs for a course, some keypunched by students; flow charts; team project to design a theoretical computer system; problem solving; written reports; case studies; work-study; accounting practice set.

Special Settings: keypunch workshops; computer laboratories; classroom with large worktables.

Special Tools and Equipment: computer console, card reader, printer, tape and disk driver, keypunch machine, other standard data processing equipment, flip charts, flow chart templates, rulers, calculators, audio-visual equipment.

Special Physical Demands: dexterity and coordination to reach controls, manipulate dials, knobs and keyboards of equipment listed above; vision to read computer responses; strength to lift card decks weighing up to 15 pounds; long attention span for programming.

DATA PROCESSING

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Programmers should be interested in systematic, numerical data-gathering procedures and detail, have a reasonable level of form perception and eye-hand coordination.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Programmer, Detail	Sedentary	Indoors			√		√	

JOB DESCRIPTIONS:

Programmer, Detail (Junior Programmer): selects symbols from coding system peculiar to model of digital computer and applies them to successive steps of program for conversion to machine processable instructions.

PROFESSIONAL ASSOCIATIONS:

Association of Computer
Programmers & Analysts
P.O. Box 95
Kensington, Maryland
20795

DATA PROCESSING: OPERATIONS

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◒	◒	◕	0	0	◕
RANGE	2 / 3	1 / 2	1 / 2	1	10 / 30	0	0	1
M.F.F.	0,2	0,1.5	0,2	0,1	0,30	0	0	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	◕	◕	●	→		●	→	
YES	40%	20%	0	10%	0	100%	30%	67%	67%
SOME TIMES	0	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→						●	◕	◕	◕	◕	◕	◕	◕	◒	◕	◕	◕
YES	10%	70%	60%	50%	40%	70%	10%	70%	50%	0	50%	30%	0	20%	50%	30%	30%	30%	30%
SOME TIMES	0	0	0	0	0	0	0	10%	0	0	0	0	0	0	0	10%	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	◕	◕	◕	◕	◕	◕	◕
YES	50%	40%	30%	50%	50%	50%	50%
SOME TIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting? →	stared or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→		→	●	●	●	●	●	◕	◕
YES	70%	43%	33%	86%	100%	0	0	70%	80%	80%	0	0
SOME TIMES	0	14%	0	0	0	0	0	0	0	0	0	0

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	50%	0	0	◕	0	0	50%	0	◒	20%	20%	0

DATA PROCESSING: OPERATIONS

(see also: DATA PROCESSING)

In some schools, data processing operations is offered as a separate career study option within the data processing field as a whole.

Courses may cover such subjects as data processing, basic operations, operating systems, operations implementation, accounting and mathematics.

Graduates will be qualified for jobs as computer operators.

OFFERED AT:

Borough of Manhattan	*	LaGuardia	*
Genesee	*	Rockland	

full or partial response to questionnaire

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	◕	◕	◕	●	●	→	→	●	●	●	●	●	●	●	●
YES	70%	50%	10%	50%	10%	40%	100%	25%	0	10%	40%	20%	50%	30%	70%	40%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	20%	30%	10%	10%	50%	50%	20%	90%	50%	60%	80%	100%	70%	30%	60%	40%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	70%	0	0

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: computer programs in Fortran keypunched by students; flow charts.

Special Settings: computer laboratory; keypunch workshop.

Special Tools and Equipment: computer console, card reader, printer, tape drives, card punch, disk drives, sorting machines and other standard data processing equipment.

Special Physical Demands: sufficient dexterity and coordination to manipulate the dials, keyboards, etc., associated with the equipment listed above; vision for reading computer responses.

DATA PROCESSING: OPERATIONS

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Computer operators should have good form and space perception and the capacity to do routine, organized work.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Digital Computer Operator	Light	Indoors			√	√	√	

JOB DESCRIPTIONS:

Digital Computer Operator: monitors and controls electronic digital computer to process data according to operating instructions.

PROFESSIONAL ASSOCIATIONS:

Society of Certified
Data Processors
38 Main Street
Hudson, Massachusetts
01749

DENTAL HYGIENE

A graduate of these dental hygiene programs is prepared to perform (under the supervision of a dentist) preventive dental care service such as oral prophylaxis; to apply preventive medication such as topical fluoride; to provide x-ray service and oral hygiene counseling.

The dental hygiene curricula apply basic science to clinical practice and provide theoretical instruction as well as practical experience in laboratory situations that simulate dental environments. Some colleges (such as Farmingdale, Erie, Monroe) offer opportunities for additional off-campus experience.

The curricula of those programs usually consist of science courses such as biochemistry, pharmacology, pathology or microbiology as well as courses in nutrition, dental anatomy, dental radiography and dental office procedures. In some schools, students may be required to take courses relating to dental assistant work – a career for which there are separate programs.

Positions for dental hygienists may occur in private dental offices, public clinics, within school systems and in community health agencies. In New York State, practice as a dental hygienist requires a license. Requirements for the license to practice include graduation from a program registered by the Education Department, or a satisfactory equivalent, passing scores on all parts of the licensing examination, and a minimum age of 17 years.

OFFERED AT:

Broome	*	Monroe	*
Erie/North	*	New York City	
Farmingdale	*	Onondaga	*
Hostos		Orange County	
Hudson Valley	*		

**full or partial response to questionnaire*

DENTAL HYGIENE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◕	◕	◕	◔	◔	◕
RANGE	1 / 6	1 / 3	1 / 4	2 / 6	10 / 100	1 / 6	4 / 15	1 / 8
M.F.F.	3	1	0,1	0,2	0,10	0,1	0,8	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	◕	◕	●	→	→	●	→	→
YES	64%	21%	5%	8%	0	100%	13%	100%	0
SOME TIMES	0	5%	38%	0	0	0	5%	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	◕	◕	●	●	●	●	◕	◕	◕	◕
YES	97%	97%	74%	58%	82%	95%	45%	42%	29%	21%	59%	41%	31%	56%	72%	54%	59%	36%	51%
SOME TIMES	0	0	0	0	0	0	0	24%	16%	0	0	0	0	5%	0	0	0	0	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	◕	◕	◕	◕	◕	◕	◕
YES	74%	46%	36%	64%	69%	69%	69%
SOME TIMES	0	5%	10%	0	3%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	◕	●	●
YES	77%	50%	47%	56%	79%	28%	13%	67%	79%	67%	21%	5%
SOME TIMES	5%	3%	0	0	0	5%	15%	3%	0	3%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	74%	0	0	◕	0	0	44%	13%	◕	28%	18%	10%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	77%	49%	23%	28%	5%	49%	63%	16%	38%	28%	38%	59%	77%	51%	79%	56%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	5%	3%	5%	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	59%	79%	54%	64%	54%	64%	54%	82%	31%	59%	82%	72%	33%	69%	67%	20%
SOME-TIMES	0	0	0	5%	5%	5%	5%	0	5%	3%	0	8%	10%	5%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: study of effect of topical fluoride; audio-visual assignment on anatomical system; dental health education project in a school or senior citizen center.

Special Settings: dental laboratories with "dental units" containing a range of dental instruments and equipment, also mannequins and dental chairs for practicing dental hygiene techniques; dental materials laboratories for preparing restorations, mixing amalgams, working on impressions; dental anatomy laboratory for head and neck anatomy; radiography "operations" for practicing x-ray exposure and techniques; darkroom and film processing laboratories with developing and fixing tanks, washing, drying and storage devices; microbiology laboratory for learning basic laboratory procedures.

Special Tools and Equipment: all dental hygiene instruments including ultra-sonic cleaning machine, rotary hand piece and rheostat, autoclave; instruments and equipment for dental assistant tasks and for manipulating dental materials – trimmers, amalgamators, vibrators, bunsen burners; microscopes, transfer needles, staining bottles, culture containers, reagent bottles and trays of cultures.

Special Physical Demands: standing or sitting for dental units; manipulating with great precision very small instruments in oral cavity – as in scaling and polishing teeth; coordinating eye-hand-foot motor activity – operating rheostat of rotary instruments, position x-ray head precisely, perceiving visual, color, tactile, form differences in clinical work and dental material laboratory manipulation; communications skills for patient cooperation, history taking, health education.

Internship: "externship" optional in some schools.

DENTAL
HYGIENE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should be able to apply technical training, relate well to people, have eye-hand coordination and be capable of precision.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Dental Hygienist	Light	Indoors			✓	✓	✓	
Dental Assistant	Light	Indoors			✓			

JOB DESCRIPTIONS:

Dental Hygienist: performs dental prophylactic treatments and instructs groups and individuals in care of teeth and mouth; charts conditions of decay and disease for diagnosis and treatment by dentist; may expose and develop x-ray film and prepare dental materials and instruments.

Dental Assistant: helps maintain patient records; serves as a receptionist; arranges instruments and dental materials; sterilizes instruments and performs routine maintenance of equipment; may expose and process x-ray film as directed by dentist.

For additional information about licensing requirements: Donald F. Wallace, D.D.S., Executive Secretary, State Board for Dentistry, State Education Department, 99 Washington Avenue, Albany, N.Y. 12230.

PROFESSIONAL ASSOCIATIONS:

**American Dental
Hygienist Association
211 E. Chicago Ave.
Chicago, Illinois
60611**

**Division of Dentistry
Public Health Service
Dept. of Health, Education
& Welfare
9000 Rockville Pike
Bethesda, Maryland
20014**

ELECTRICAL TECHNOLOGY

(see also: ELECTRONICS, ELECTROMECHANICAL TECHNOLOGY, INDUSTRIAL TECHNOLOGY)

These curricula prepare students for positions as electrical technicians, functioning in the vocational area between the graduate engineer and the skilled craftsman. Extensive training in basic electrical theory coupled with the experience of practical application in the laboratory ready the graduate to deal with the problems of efficient generation, transmission and distribution of electrical energy as well as the design, construction, testing and maintenance of such complex equipment as computers, control systems, communications systems and medical devices. The following descriptive titles characterize the jobs generally found in the field of industrial and consumer-oriented electrical technology: engineering aide, laboratory technician, technical writer, sales representative, electrical cost estimator, customer engineer and production technician.

OFFERED AT:

Adirondack	*	Monroe	
Bronx	*	Morrisville	
Broome	*	New York City	
Canton		Niagara	
Cayuga		Onondaga	*
Corning	*	Queensborough	
Erie/North		Rockland	
Farmingdale		Schenectady	*
Fulton-Montgomery	*	Staten Island	
Hudson Valley	*	Suffolk/Selden	*
Jamestown		Westchester	*
Mohawk Valley	*		

**full or partial response to questionnaire*

ELECTRICAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◒	◒	●
RANGE	1 / 4	1 / 3	1 / 2	1 / 6	4 / 100	1 / 15	2 / 30	1 / 6
M.F.F.	3	1	1	3	10,20	1	6,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	43%	21%	0	6%	50%	0	8%	0	20%
SOMETIMES	0	0	24%	3%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	◕
YES	71%	83%	45%	27%	43%	58%	23%	50%	63%	29%	85%	33%	41%	70%	85%	73%	48%	48%	50%
SOMETIMES	2%	0	0	0	0	0	0	6%	6%	0	0	0	4%	2%	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	82%	42%	53%	62%	85%	77%	71%
SOMETIMES	0	6%	3%	2%	2%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	77%	40%	39%	61%	78%	12%	8%	80%	82%	77%	3%	12%
SOMETIMES	0	0	0	2%	0	2%	3%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	83%	2%	3%	●	0	0	80%	8%	●	17%	53%	12%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	58%	29%	14%	24%	9%	47%	41%	28%	20%	41%	38%	48%	77%	47%	74%	17%
SOME TIMES	2%	3%	2%	0	0	2%	0	3%	2%	3%	0	0	0	3%	2%	2%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	15%	41%	18%	29%	36%	36%	12%	86%	15%	36%	86%	77%	29%	32%	58%	36%
SOME TIMES	0	0	0	0	3%	5%	5%	0	12%	3%	3%	2%	5%	3%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: assignment of videotapes, audiotapes, slides; design projects in linear and digital work; special control systems; student design and construction at own expense of a working piece of electronic equipment; printed circuit board layout, etching and assembling electronic circuits; repair, testing and calibration of a piece of commercial electronic equipment.

Special Settings: electronics laboratory with standard work table; machine shop.

Special Tools and Equipment: small hand tools, laboratory tools; electrical measuring instruments – voltometers, ammeters, watt meters, oscilloscopes; function generators; calculators; keypunch machines; large and small motors and generators; transistors, resistors, capacitators, computer terminals; soldering irons, tools to strip insulation from wires, vise to hold work.

Special Physical Demands: lifting and carrying equipment weighing up to 30 pounds; mounting and dismounting test equipment from test stands; wiring motors and control systems; manipulating very small components (½"–2"), control knobs; replacing parts in circuits; reading test instruments and adjusting circuits in response; reading small print on small objects with color code bands; coordinating eye-hand activity to avoid shock hazard.

Internships: not universally required but Mohawk describes a work-study program with private industry and Schenectady maintains a mandatory internship as part of its cooperative education program.

ELECTRICAL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

The ability to apply basic engineering principles and methods is often required, as is some mathematical competence, spatial perception and manual and finger dexterity.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Electrical Technician	Light	Indoors		√	√		√	√
Electronics Mechanic	Light	Indoors			√	√	√	√
Equipment Salesman - Electronic Components	Light	Indoors			√	√		

JOB DESCRIPTIONS:

Electrical Technician: applies electrical theory and related subjects to test and modity electrical machinery and control equipment in industrial and commercial plants and laboratories.

Electronics Mechanic: repairs electronic equipment following blueprints and manufacturers' specifications, and using handtools and test instruments.

Salesman, electronic components: sells radio, television and other electronics parts to retailers, repair shops or electronics and aircraft manufacturing firms.

PROFESSIONAL ASSOCIATIONS:

Institute of Electrical
& Electronics Engineers
345 E. 47th St.
New York, N.Y.
10017

International
Brotherhood of
Electrical Workers
1125 15th St. N.W.
Washington, D.C.
20005

ELECTROMECHANICAL TECHNOLOGY

(see also: ELECTRICAL TECHNOLOGY, MECHANICAL TECHNOLOGY)

This course of study recognizes that industrial and business machine systems as well as bio-medical instrumentation frequently combine elements of both electrical-electronic and mechanical technologies in their structure and function. The goal of this degree program, then, is to produce technicians with strong backgrounds in both areas. Students are grounded in theoretical principles and diagnostic procedures, this being followed by practical application of these skills toward systems repair and development in the laboratory.

Jobs for which graduates are prepared include: customer and production service technician, production design and testing, production assembly technician, equipment installation and maintenance, engineering aide, laboratory technician, technical sales representative, data processing technician, business machines technician, bio-medical instruments service technician.

OFFERED AT:

Alfred		New York City	*
Dutchess		Staten Island	
Farmingdale			

**full or partial response to questionnaire*

ELECTRO-MECHANICAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◕	◕	●	◕	◕	●
RANGE	1/5	1/4	1	2/4	3/35	4/9	6/20	1/2
M.F.F.	1	1	1	0,2	5	0,2	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	38%	38%	0	0	0	0	0	0	0
SOME-TIMES	0	0	13%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	100%	63%	75%	13%	63%	38%	25%	38%	63%	13%	88%	25%	75%	100%	100%	50%	63%	38%	75%
SOME-TIMES	0	0	0	0	0	0	0	13%	0	0	0	0	0	0	0	13%	13%	13%	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	75%	38%	75%	100%	100%	100%
SOME-TIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	◕	●	●
YES	88%	71%	100%	71%	100%	13%	38%	100%	100%	50%	0	0
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	88%	12%	0	●	0	0	63%	25%	●	25%	50%	25%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	—	→	●	●	●	●	●	●	●	●
YES	25%	25%	13%	0	0	25%	50%	0	0	25%	50%	50%	75%	50%	63%	13%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others*	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	38%	75%	38%	38%	50%	38%	38%	75%	25%	88%	38%	63%	0	63%	25%	50%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	25%	25%	0	25%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: breadboard and assemble complex electromechanical computer controlled systems; build digital and analog control systems.

Special Settings: laboratory with computer peripheral equipment, oscilloscopes, drafting boards.

Special Tools and Equipment: oscilloscopes, power supplies, wave form generators, digital voltometers, logic laboratory equipment, teletype terminal, keypunch, CR 7 terminal, computers, hand tools (e.g. pliers, rivets, soldering iron) drafting tools (e.g. scales, compass and triangles).

Special Physical Demands: lifting up to 15 pounds of equipment with a bulk of 2½' X 2½' X 1'; carrying a 10 pound tape punch for a distance of 2'; hand strength and dexterity for use of hand tools, drill press, sheet metal tools, bending brake, bench grinder, scriber, hand drill, hammer, riveting tool, soldering iron and for keypunching as well as inserting and removing wires; stretching and reaching to control instruments; motor coordination for drawing and manipulating control knobs; responsiveness to visual stimuli, to interpret instrumentation; form perception for color coded electronic component value determination; eye-hand-foot coordination for operating sheet metal shear; work speed in repairing costly machines; oral communication for customer-oriented jobs.

Professorial Comments: "Everchanging and developing field, new types of equipment produced constantly."; "Student requires far more physical coordination on job than in school"; "Technician may have to travel from office to office and speak to customers."

ELECTRO-MECHANICAL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

The ability to apply basic engineering principles and methods is often required, as is some mathematical competence, spatial perception and manual and finger dexterity.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Electrical Technician	Light	Indoors		√	√		√	√
Electronics Mechanic	Light	Indoors			√	√	√	√
Equipment Salesman - Electronic Components	Light	Indoors			√	√		

JOB DESCRIPTIONS:

Electrical Technician: applies electrical theory and related subjects to test and modify electrical machinery and control equipment in industrial and commercial plants and laboratories.

Electronics Mechanic: repairs electronic equipment following blueprints and manufacturers' specifications, and using handtools and test instruments.

Salesman, electronic components: sells radio, television and other electronics parts to retailers, repair shops or electronics and aircraft manufacturing firms.

PROFESSIONAL ASSOCIATIONS:

See: **Electrical Technology**

Mechanical Techology

ELECTRONICS

(see also: ELECTRICAL TECHNOLOGY, ELECTROMECHANICAL TECHNOLOGY)

Though Electronics and Electrical Technology are closely allied, the distinction has been made that Electrical Technology deals with motors, generators, batteries and electrical wiring while Electronics deals with more intricate electrical systems such as computers, electronic communication, etcetera. In some schools the programs are quite distinct; in others all but interchangeable. Most schools offering Electronics emphasize the rapid changes which occur in this developing field. As a consequence, they stress the importance of a thorough study of basic principles as preparation for future flexibility in new applications. At the same time, they develop practical skills in working with current specific applications in the laboratory via experience with DC, AC and solid state circuitry, vacuum tubes, semi-conductors, feedback control systems, microwave and communications, analog and digital computers, etcetera, preparing the graduate for employment in the various fields of communication, data processing, automation and consumer goods and equipment. Skilled technicians are capable of assisting engineers in planning and development work and converting drawings and schematic diagrams into functional hardware as well as installing, maintaining and repairing equipment. Some curricula (such as Alfred's) emphasize trouble-shooting and maintenance components of this career preparation rather than design.

Graduates are generally equipped to find positions as engineer aides, electronics technicians and/or computer technicians, involved in the design, construction, maintenance, repair, specification, sales or customer training aspects of the field.

OFFERED AT:

Alfred		Farmingdale	*
Canton		Orange County	*
Cayuga		Queensborough	*
Corning		Suffolk/Selden	
Dutchess		Ulster	*
Erie/North			

**full or partial response to questionnaire*

ELECTRONICS

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◕	◒	●
RANGE	1/4	1	1	3/4	5/40	1/12	2/10	1/4
M.F.F.	3	1	1	3	25	1	5	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	55%	45%	0	0	0	0	0	0	0
SOME-TIMES	0	18%	9%	18%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	91%	50%	60%	30%	50%	40%	70%	10%	50%	18%	100%	27%	55%	82%	91%	82%	54%	36%	64%
SOME-TIMES	0	0	0	0	0	0	0	20%	30%	0	0	18%	36%	9%	9%	0	18%	18%	9%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	91%	73%	100%	100%	82%	91%
SOME-TIMES	0	0	9%	0	0	9%	9%

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	91%	90%	22%	80%	25%	18%	0	100%	100%	73%	9%	27%
SOME-TIMES	0	0	0	0	0	18%	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	82%	0	9%	●	0	0	82%	9%	●	27%	45%	18%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	36%	55%	45%	9%	0	36%	0	33%	9%	27%	73%	45%	91%	55%	100%	18%
SOMETIMES	0	0	0	0	0	18%	17%	17%	0	9%	0	9%	9%	9%	0	9%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	55%	73%	36%	9%	27%	45%	18%	82%	0	36%	82%	55%	27%	9%	27%	55%
SOMETIMES	0	9%	18%	9%	9%	0	0	0	18%	9%	9%	9%	9%	73%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: weekly laboratory report; electronic construction e.g. alarm system, digital clock; construction of superhetrodyne receiver, low voltage power supply to each student; wiring of simple circuits; performance of various operations in machine shop, welding laboratory and materials laboratory.

Special Settings: electronics laboratory; digital hardware laboratory; machine shop; welding laboratory; materials laboratory.

Special Tools and Equipment: electronics test equipment for measuring voltage, current resistance etc.; slide rule, calculators, french curves for drawing graphs; measuring instruments; soldering irons; small hand tools, e.g. pliers, screwdrivers, wrenches, handpress, chucks.

Special Physical Demands: visual acuity of great importance; lifting weights of up to 30 pounds; carrying test device (5 pounds) for 20 feet; dexterity in manipulating electronic components, e.g. resistors, transistors, etc., as well as for handling vises; motor coordination for timing of related sequences for connecting circuits with wires and for operating cutting tools; hand strength for using wrenches, handpress, levers, switches; stretching, reaching over bench equipment.

Professorial Comments: "Many phases of electronics are open to handicapped people"; "Advancements in technology are almost daily occurences; it is vital that any person in the field be prepared to keep abreast of the changes".

ELECTRONICS

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

The ability to apply basic engineering principles and methods is often required, as is some mathematical competence, spatial perception and manual and finger dexterity.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Electrical Technician	Light	Indoors		✓	✓		✓	✓
Electronics Mechanic	Light	Indoors			✓	✓	✓	✓
Equipment Salesman - Electronic Components	Light	Indoors			✓	✓		

JOB DESCRIPTIONS:

Electrical Technician: applies electrical theory and related subjects to test and modify electrical machinery and control equipment in industrial and commercial plants and laboratories.

Electronics Mechanic: repairs electronic equipment following blueprints and manufacturers' specifications, and using handtools and test instruments.

Salesman, electronic components: sells radio, television and other electronics parts to retailers, repair shops or electronics and aircraft manufacturing firms.

PROFESSIONAL ASSOCIATIONS:

International Society
of Certified Electronics
Technicians
P.O. Box 1258
ISU Station
Ames, Iowa
50010

Institute of Electrical
& Electronics Engineers
345 E. 47th St.
New York, N.Y.
10017

ENVIRONMENTAL TECHNOLOGY

(see also: NATURAL RESOURCE CONSERVATION)

Environmental Technology primarily prepares students for work related to air and water pollution, on the technician level. At New York City Community College there is some emphasis given to the application of engineering principles in the design of environmental controls and mechanical systems, and the course of study includes air conditioning and refrigeration.

Courses may include technical mathematics, chemistry and biology related to air and water pollution, hydraulics, and, at New York City Community College, courses in combustion processes and equipment, surveys of AC and DC electrical machinery and refrigeration. Among the jobs which graduates may find are: water pollution control facility operator, environmental technician, stack tester and laboratory technician. Employment may be found as inspectors for governmental control agencies, assistants to engineers in the design and construction of treatment facilities, assistants to scientists in sampling and laboratory analysis and in selling and servicing equipment.

The New York State Sanitary Code indicates that the basic Civil Service qualifications for an environmental health technician are that he/she have an associate degree in applied science or a satisfactory combination of experience and college credits, including at least 12 credits in natural science.

OFFERED AT:

Hudson Valley	*	New York City	*
Morrisville	*	Sullivan County	*

**full or partial response to questionnaire*

ENVIRONMENTAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◕	◕	●
RANGE	1/3	1/3	1/12	2/4	5/50	1/15	5/10	1/4
M.F.F.	3	1	1	3	5	0,1	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	◕	→	→
YES	61%	31%	3%	31%	78%	22%	0	0	0
SOMETIMES	0	0	57%	0	11%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	100%	90%	52%	69%	62%	66%	17%	62%	34%	21%	100%	35%	28%	45%	76%	83%	24%	55%	46%
SOMETIMES	0	0	0	0	0	0	0	7%	24%	0	0	0	0	14%	0	7%	14%	14%	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	48%	17%	83%	93%	93%	13%
SOMETIMES	0	31%	14%	17%	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	72%	10%	50%	76%	100%	7%	0	72%	97%	69%	24%	24%
SOMETIMES	0	0	0	0	0	0	14%	14%	3%	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	66%	0	31%	●	0	0	69%	24%	●	14%	45%	21%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	72%	55%	52%	31%	31%	59%	35%	29%	24%	48%	52%	72%	72%	59%	76%	24%
SOMETIMES	0	0	0	0	0	0	0	0	14%	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	38%	66%	26%	59%	31%	38%	9%	93%	52%	21%	90%	69%	28%	14%	45%	48%
SOMETIMES	0	0	0	0	14%	0	0	0	17%	0	0	0	0	55%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: lake and stream sampling and measurements.

Special Settings: laboratories, including refrigeration, environmental, air handling and electrical laboratories; drafting rooms.

Special Tools and Equipment: analytical, measuring, sampling and auto-tutorial equipment; calculators; drafting implements.

Special Physical Demands: ability to lift cylindrical and box-shaped objects weighing up to 40 pounds; dexterity sufficient to use drafting tools, laboratory equipment, including glassware and for keying organisms; form and color perception for perceiving organic matter in the laboratory and identifying organisms on their natural habitat; sight for reading instruments and graphic design; coodination adequate to insure safety in such field settings as roofs; ability to reach over entire surface of a drafting board; endurance for up to four hours of continuous laboratory work.

ENVIRONMENTAL
TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Requirements frequently include some mathematical ability, form perception and, in the case of supervising work, the ability to organize, lead and establish good working relationships.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Water and Sewer Systems Foreman	Medium	Outdoors				✓	✓	
Air Analyst	Light	Indoors			✓		✓	
Smoke Tester	Light	Indoors			✓			

JOB DESCRIPTIONS:

Water and Sewer Systems Foreman: supervises crew engaged in installing, maintaining, repairing and servicing water distribution and sewage facilities.

Air Analyst: analyzes samples of air in work areas to determine amount of suspended foreign particles and effectiveness of control methods, using dust collectors.

Smoke Tester: tests efficiency of Cottrell plant and flue recovery methods by determining rate of discharges of gases and solids from smelter smokestack.

For additional information regarding State Civil Service requirements: Mr. Joseph Salvato, Assoc. Director, Division of Sanitary Engineering, Empire State Plaza, Tower Building, Albany, N.Y. 12237.

PROFESSIONAL ASSOCIATIONS:

American Academy of
Environmental Engineers
P.O. Box 1278
Rockville, Maryland
20850

National Environmental
Health Association
1600 Pennsylvania Ave.
Denver, Colorado
80203

EXECUTIVE SECRETARIAL SCIENCE

(see also: LEGAL SECRETARIAL SCIENCE, MEDICAL SECRETARIAL SCIENCE, SECRETARIAL SCIENCE (GENERAL))

Executive Secretarial Science programs prepare students for upper-level secretarial positions. The curriculum generally includes study and practice of typing, shorthand and transcription; business communications and humanities courses. Medical and legal secretarial courses are often available, sometimes as electives or as second year areas of specialization. Courses in business organization, management or accounting may also be found.

Jobs are available in private and government offices with such titles as executive secretary, executive assistant or technical (advertising, medical, legal) secretary.

OFFERED AT:

Alfred	*	Kingsborough	*
Borough of Manhattan	*	Mohawk Valley	*
Bronx	*	Monroe	*
Broome		Nassau	
Cayuga	*	Niagara	*
Clinton		Onondaga	
Columbia-Greene	*	Queensborough	*
Farmingdale	*	Schenectady	
Jefferson		Ulster	*

**full or partial response to questionnaire*

EXECUTIVE SECRETARIAL SCIENCE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	◕	◔	◔	●
RANGE	1/5	1/2.5	1/15	1/3	1/100	1/36	2/20	1/9
M.F.F.	3	1	0,2	0,1	0,20	0,1	0,2	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	27%	38%	4%	11%	8%	25%	7%	50%	88%
SOMETIMES	1%	5%	4%	3%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	87%	56%	33%	70%	28%	64%	16%	62%	31%	57%	79%	72%	9%	51%	85%	50%	27%	15%	48%
SOMETIMES	2%	0	0	0	0	0	0	11%	4%	0	0	0	0	3%	1%	5%	11%	11%	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	45%	47%	54%	63%	80%	80%	81%
SOMETIMES	2%	7%	4%	3%	2%	4%	4%

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	66%	16%	33%	89%	87%	6%	21%	76%	81%	56%	6%	14%
SOMETIMES	0	8%	0	1%	0	2%	10%	9%	3%	4%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	91%	0	1%	●	1%	0	74%	8%	●	33%	21%	25%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◒	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	94%	12%	6%	4%	3%	12%	69%	38%	5%	2%	10%	9%	63%	24%	69%	21%
SOMETIMES	1%	0	1%	0	0	0	0	0	0	0	0	0	2%	0	2%	2%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	37%	56%	17%	32%	63%	71%	70%	65%	27%	69%	76%	73%	37%	37%	58%	29%
SOMETIMES	6%	5%	4%	4%	5%	0	1%	5%	10%	9%	8%	13%	7%	49%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: production typing; typing sets; job search scenario; oral reports and discussions; term paper; bulletin board displays; practice accounting set.

Special Settings: office setting; typing room; office machine laboratory; library; study carrels.

Special Tools and Equipment: typewriters; dictating machines; duplicating equipment; calculators; audio-visual equipment.

Special Physical Demands: lifting and carrying calculators and transcribers; hand strength and dexterity to use files, typewriter and other secretarial equipment; coordination (eye-hand or eye-hand-foot) to operate transcribers and other office equipment; form perception for letter placement and to distinguish shorthand symbols; hearing for dictation; sight for replication of outlines; tactile perception for touch typing; written communication skills for business letters and other documents; oral communication skill for telephone work.

Internship: field work.

EXECUTIVE SECRETARIAL SCIENCE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

A secretary should have facility with words, be accurate and tactful, and have adequate form perception. On an executive level, the ability to plan and execute programs, interpret and apply policies, and work well with people are required.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Secretary	Sedentary	Indoors			✓	✓	✓	
Administrative Secretary Executive Secretary	Sedentary	Indoors				✓		

JOB DESCRIPTIONS:

Secretary: schedules appointments, gives information, takes dictation, transcribes notes on typewriter and otherwise relieves officials of clerical work and minor administrative tasks. May compose and type routine correspondence, answer telephone, greet visitors, file.

Administrative/Executive Secretary: keeps official corporation records and executes administrative policies determined by or in conjunction with other officials.

PROFESSIONAL ASSOCIATIONS:

National Association of
Executive Secretaries
9401 Lee Highway
Suite 210
Fairfax, Virginia
22030

Executive Secretaries Inc.
c/o Mrs. Mary Johnson
2188 Highland Drive
Suite 203
Salt Lake City, Utah
84106

FIRE PROTECTION TECHNOLOGY

These programs train a variety of personnel for jobs in the prevention of loss of life and property from fire, explosion and related hazards. Some of the programs (such as that of Erie) are designed primarily to give additional professional education to persons already employed in the fire service; other programs (such as that of Monroe) also offer preparation for persons who are not fire fighters but plan to enter the field of industrial fire safety or protection or take fire service training later in special "hands on" fire school programs.

The curriculum may include appropriate science courses as well as technical courses in subjects such as fire hydraulics, flammable liquids, alarm and extinguisher systems, fire tactics, occupancy standards, fire department administration. Most programs tend to be theoretically oriented, training fire protection technicians for inspection, evaluation, advising, strategy planning and administration.

Graduates may find employment as fire inspectors, fire security officers, fire consultants, fire safety engineers in industry; fire insurance loss-prevention specialists, underwriters or fire claim adjusters; or as salesmen of fire protection and extinguishing equipment or as consultants to fire departments.

OFFERED AT:

Broome		Onondaga	
Cayuga	*	Rockland	
Erie/North		Suffolk/Selden	
Monroe		Tompkins-Cortland	
New York City	*	Westchester	*

**full or partial response to questionnaire*

FIRE PROTECTION TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◔	◔	●	◕	◕	●
RANGE	1 / 4	1 / 3.5	0	0	15 / 75	1 / 12	1 / 10	1 / 2
M.F.F.	1	1	0	0	38	0,1	0,6	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	→ transport provided?	crucial - no substitute?	off-campus internship required?	→ public employ?	private employ?
R.R.R.	◕	●	●	● →	→	→	● →	→	→
YES	59%	38%	8%	38%	20%	40%	23%	67%	0
SOME-TIMES	0	0	62%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	→ slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	● →	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	100%	85%	85%	38%	85%	92%	38%	38%	54%	15%	100%	38%	15%	92%	85%	85%	62%	54%	46%
SOME-TIMES	0	0	0	0	0	0	0	8%	15%	0	0	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	85%	85%	62%	100%	100%	69%	100%
SOME-TIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting?	→ staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	● →	→	→	→	→	◕	●	●	●	●	●	●
YES	23%	75%	67%	75%	100%	0	23%	77%	92%	85%	0	8%
SOME-TIMES	0	0	0	0	0	0	23%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	69%	8%	0	◕	8%	0	54%	8%	◕	15%	38%	15%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	85%	0	8%	0	0	8%	100%	100%	0	0	0	0	0	0	8%	0
SOMETIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	15%	23%	0	0	23%	23%	0	54%	15%	31%	69%	69%	31%	38%	69%	15%
SOMETIMES	0	0	0	0	0	8%	8%	0	0	0	8%	0	8%	0	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: field trips to fire science testing laboratory and hazardous occupancies; inspection and report on premises, preparation of Sandborne map; presentation of fire-problem experience; term paper on fire protection and New York City water supply; model of house improperly wired.

Special Settings: fire protection and hazard demonstrations; laboratory technician demonstrations and experiments; room with variety of building materials, screens and outlets for video equipment.

Special Tools and Equipment: sprinklers, fire detectors, fire extinguishant and fire suppression nozzles and other devices may be examined and demonstrated in fire protection technology courses.

Special Physical Demands: physical demands minimal, see previous page.

Professorial Comments: "There are no physical requirements in the course, but in the field some might be encountered"; "A handicapped person might be limited in the type of job he could find if he went into the fire service. However, there are certain jobs that can be filled by such a person..."; "For the most part, graduates will work in the field although some could operate in an office"; "There are large areas where the physically handicapped could be employed".

FIRE
PROTECTION
TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should know laws, regulations and investigative procedures. They should be able to deal with people verbally and tactfully, sometimes under stress and confronted by resistance. Some jobs require physical stamina, form, color and spatial perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Fire Inspector I	Light	Indoors Outdoors	✓	✓	✓		✓	
Fire Inspector II	Light	Indoors Outdoors	✓			✓		
Safety Man	Light	Indoors Outdoors	✓	✓		✓		

JOB DESCRIPTIONS:

Fire Inspector: inspects premises of an industrial plant to detect and eliminate fire hazards; inspects fire-extinguishing and-protection equipment and prepares reports listing required repairs and replacement; patrols plant areas in which combustible materials are stored.

Fire Inspector: inspects interior and exterior of buildings to detect fire hazards and enforce local ordinances and state laws; prepares report of violations or unsafe conditions; recommends means of correcting hazards; issues summonses.

Safety Man: in the insurance industry, inspects property of insured to evaluate conditions affecting safety and casualty underwriting standards; develops and provides safety programs.

PROFESSIONAL ASSOCIATIONS:

**National Fire
Protection Association
470 Atlantic Avenue
Boston, Massachusetts
01749**

**National Association of
Fire Investigators
53 W. Jackson Blvd.
Chicago, Illinois
60604**

FOOD SERVICE ADMINISTRATION

(see also: HOTEL TECHNOLOGY)

Food Service Administration programs prepare students for entry to mid-level supervisory positions in quantity food establishments such as restaurants, hotels, hospitals and school cafeterias.

The curriculum in food service administration in the several schools varies considerably in the number of options and degree of specialization offered. Instruction is usually offered in two main areas: courses in subjects such as the theory and technique of food preparation and selection, menu planning and nutrition; and courses emphasizing the business, accounting, cost control and management component of the food industry.

Practical experience in a realistic college kitchen-laboratory setting in cooking, purchasing, kitchen management, table service and dish-room work is frequently available. A summer field work placement on an approved job is required by many schools.

A graduate of one of these programs may be found working in jobs with titles such as: dining room or cafeteria supervisor, assistant manager trainee, salesman for food products, dietary technician, school-lunch manager and other related positions.

OFFERED AT:

Alfred	*	Monroe	
Canton		Morrisville	
Cobleskill		New York City	
Delhi		Tompkins-Cortland	*
Erie/North	*	Westchester	
Fulton-Montgomery			

**full or partial response to questionnaire*

FOOD SERVICE ADMINISTRATION

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◒	●	◕	◕	●
RANGE	1 / 10	1 / 2	3 / 5	1.5 / 5	20 / 200	1 / 6	2 / 50	1 / 4
M.F.F.	3	1	0,5	0,5	50	0,2	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	78%	30%	0	5%	100%	100%	10%	100%	0
SOMETIMES	0	0	0	10%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	90%	61%	50%	50%	11%	67%	0	44%	39%	20%	90%	25%	30%	65%	70%	75%	65%	25%	70%
SOMETIMES	0	0	0	0	0	0	0	17%	6%	0	0	0	0	5%	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	
YES	100%	40%	45%	70%	75%	100%	85%
SOMETIMES	0	15%	0	15%	5%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	55%	80%	56%	0	0	40%	20%	85%	95%	80%	20%	15%
SOMETIMES	0	0	0	0	0	0	0	0	0	10%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	20%	0	70%	0	●	40%	45%	5%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	◕	→	→	●	●	●	●	●	●	●	●
YES	65%	35%	45%	45%	25%	55%	100%	18%	45%	45%	45%	55%	45%	45%	65%	50%
SOME-TIMES	0	0	0	0	0	0	0	27%	0	0	0	5%	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◡	●	●	●	●	●	●	●
YES	55%	40%	45%	50%	50%	65%	55%	90%	0	75%	95%	80%	60%	70%	25%	70%
SOME-TIMES	0	0	0	0	0	0	15%	0	0	0	0	10%	0	0	0	0

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: planning a special dinner, a food show, a demonstration, a food facility to feed 500 students; catering an on-campus group dinner; calculating purchase specifications and amounts needed; writing menus for assigned operations; evaluating dietary intakes; writing manager and bookkeeper reports; preparing a basic payroll; completing an entire account cycle.

Special Settings: various kitchen-laboratories and food settings — cafeteria, a la carte, large and small quantity catering and demonstration settings.

Special Tools and Equipment: all basic food preparation equipment.

Special Physical Demands: lifting and carrying food cases, cartons, canned goods up to 100 pounds; grasping kitchen utensils and equipment — knives, spoons, spatula, ladle, wire-whip, pans, fry basket, coffee pots; cutting, chopping, stirring, mixing, weighing ingredients; mobility for dishroom, bussing and setting tables, waiting on tables; visual, tactile, form perception for food purchasing, preparation and presentation; maintaining sanitation, safety; tolerating constant interruption, interaction with people, changes; ability to perform rapidly, efficiently under stress; verbal facility — quoting prices, working with salesmen, menu-makers, the public. Cashiering, ordering, working on accounts, record keeping, inventory taking.

FOOD SERVICE ADMINISTRATION

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

In management and supervisory positions, workers should be able to plan and execute programs, have the numerical facility to maintain inventory controls and records, have verbal skills and leadership qualities. Sales positions require verbal and numerical skills and the ability to relate to people effectively. Cooks need physical dexterity and form perception and should be able to withstand a humid atmosphere with some potential for bodily injury.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Food Service Supervisor	Light	Indoors						
Manager Cafeteria	Light	Indoors				✓		
Salesman Food Products	Light	Indoors Outdoors				✓		
Cook	Medium	Indoors			✓		✓	

JOB DESCRIPTIONS:

Food Service Supervisor: trains and supervises employees engaged in serving food in institutional food department, and in maintaining of food service areas and equipment. Keeps records, requisitions supplies, may direct food preparation.

Manager, Cafeteria: directs and coordinates activities of workers furnishing cafeteria services to insure efficiency and profitability. May assist workers during rush periods.

Salesman, Food Products: sells food products to retail food stores, wholesale grocers, restaurants, hotels or institutions utilizing detailed knowledge of merchandise; estimates or quotes prices and credit terms, prepares contracts and reports.

Cook: prepares family-style meals for crews, work crews, or residents and employees of an institution. Plans menus, may serve meals, order supplies, keep records and supervise one or two other workers.

PROFESSIONAL ASSOCIATIONS:

Hospital Food
Directors Association
c/o Corney's Secretarial
Service
5315 Chester Avenue
Philadelphia, Pa.
19143

Food Services
Executives' Association
2827 Rupp Drive
Fort Wayne, Indiana
46805

GRAPHIC ARTS and ADVERTISING TECHNOLOGY

Graphic arts and advertising technology programs prepare students for middle-management positions in the graphic arts industry which includes printing, advertising and publishing.

The curricula of some schools emphasize the artistic-illustrative aspect of this field with first year courses in art history, drawing, painting and reviews of student portfolios; while other schools emphasize the printing-publishing component, especially the production aspect, with courses slanted toward technical and business subjects such as typography, color and black and white copy preparation, photo processes, business organization and estimating. Some schools such as New York City can offer as options a wide range of specialties as is indicated by their major's "sequences" in advertising production management, sales, technical services and administrative assistantship. Employment as a printing or photo technician, printing estimator, production assistant, assistant advertising manager, printing or space salesman may be available to the graduate of these programs.

OFFERED AT:

Borough of Manhattan		New York City	
Dutchess		Onondaga	
Farmingdale	•	Rockland	
Fashion Institute		Sullivan County	
Mohawk Valley			

**full or partial response to questionnaire*

GRAPHIC ARTS
and
ADVERTISING
TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◕	◕	●
RANGE	2 / 3	1.5 / 2	2 / 3	1 / 3	2 / 40	1 / 6	4 / 10	1
M.F.F.	2	90	2	2	2	[illegible],3	0,4	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	20%	20%	0	60%	0	33%	0	0	0
SOME-TIMES	0	20%	0	0	2%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	◕	→	→	→	→	→	→	●	●	●	●	●	●	●	◒	◒	◕	◕	●
YES	100%	60%	0	20%	20%	80%	40%	20%	0	20%	80%	60%	40%	100%	20%	40%	20%	40%	60%
SOME-TIMES	0	0	0	0	0	0	0	0	20%	0	0	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	20%	40%	60%	100%	80%	100%
SOME-TIMES	0	40%	0	40%	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	60%	0	0	50%	0	0	0	60%	100%	60%	40%	0
SOME-TIMES	20%	0	0	0	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	0	0	80%	0	●	60%	20%	0

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	◕	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	80%	0	0	0	0	60%	100%	100%	20%	20%	40%	40%	40%	0	40%	0
SOMETIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	●	●	●	●	◕	●	●	●
YES	80%	60%	60%	60%	80%	40%	0	100%	40%	0	100%	80%	0	0	60%	40%
SOMETIMES	0	0	0	0	0	40%	20%	0	20%	40%	0	20%	0	0	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: papers; paintings; advertising type layouts; studies of plant facilities and production methods; survey of job opportunities.

Special Settings: art studio type environments; printing laboratory; special tables.

Special Tools and Equipment: drawing and painting materials; copying, tracing and cutting material; photographic and printing material and equipment; hand-type, machine set-type, engravings, stereotype plates to illustrate their construction and use.

Special Physical Demands: lifting and carrying art materials and portfolios up to 5 pounds; coordination for drawing, painting, mechanical art; visual perception for drawing, evaluating, rendering art layouts, devising solutions to design problems; setting type; determining format, editing, revising and calculating copy.

GRAPHIC ARTS
and
ADVERTISING
TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Individuals doing art work should have good form, spatial and color perception. Those involved in other aspects of advertising need good communication skills, confidence, drive and persuasiveness.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Advertising Assistant	Sedentary	Indoors			✓		✓	
Advertising Lay-out Man	Sedentary	Indoors			✓		✓	
Salesman, Advertising	Light	Indoors			✓	✓		
Illustrator	Sedentary	Indoors			✓		✓	

JOB DESCRIPTIONS:

Advertising Assistant: plans or assists in planning advertising program to promote sales of company's products; prepares materials for publication; reviews and proofreads copy. May write copy or do layout work.

Advertising Layout Man: designs advertising layouts.

Salesman, Advertising: sells classified and display space for publication; obtains information concerning current advertising and its results; prepares sample layouts.

Illustrator: draws and paints illustrations for advertisements, posters, billboards, catalogues and other publications.

PROFESSIONAL ASSOCIATIONS:

Graphics Art
Advertisers Council
230 W. 41st Street
New York, N.Y.
10036

Advertising Club
of New York
23 Park Avenue
New York, N.Y.
10016

HOTEL TECHNOLOGY

(see also: FOOD SERVICE ADMINISTRATION)

Since food preparation and service is a vital component of the hotel business, the curricula in these two fields are necessarily closely related and sometimes overlapping. Some schools offer both hotel technology and food service administration with hotel technology as an area of concentration within food service administration; others offer one or the other program only.

Hotel technology students are groomed for entry to mid-level managerial positions in hotel-motels and in the institutional food service field. The curriculum of hotel technology tends to be built around a base of food service administration courses including such subjects as quantity food purchasing, preparation and serving, and allied subjects, notably menu planning and food costing. Management courses in hotel technology, hotel accounting, front office machine operation and hotel housekeeping may also be offered. There are considerable differences between schools in the specialization of courses offered.

Field work experience is likely to be required. For example: Schenectady students participate in fifteen catering projects during their senior year; Cobleskill and Sullivan students may acquire such experiences during the summer.

A graduate may find employment as an assistant hotel manager, assistant controller, assistant accountant or assistant chef; as a housekeeping supervisor, service superintendent, banquet manager or front desk supervisor and in other hotel related positions.

OFFERED AT:

Canton		New York City	*
Delhi	*	Schenectady	
Nassau	*	Sullivan County	*

**full or partial response to questionnaire*

HOTEL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◕	◕	●
RANGE	1 / 4	1 / 2	1 / 5	1 / 12	2 / 50	1 / 4	2 / 30	1 / 2
M.F.F.	1	1	1	0,3	20	0,1	0,2	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	67%	17%	4%	8%	0	0	17%	75%	25%
SOMETIMES	0	8%	4%	21%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	71%	88%	65%	41%	6%	65%	6%	53%	47%	17%	83%	37%	29%	29%	83%	71%	46%	8%	46%
SOMETIMES	0	0	0	0	0	0	0	12%	18%	0	0	0	0	21%	8%	8%	0	0	4%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	83%	46%	54%	75%	75%	87%	46%
SOMETIMES	0	25%	8%	8%	4%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	58%	7%	100%	50%	0	4%	0	75%	83%	71%	4%	8%
SOMETIMES	0	7%	0	0	0	8%	4%	4%	4%	8%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	25%	4%	58%	8%	●	58%	38%	4%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	63%	42%	50%	42%	8%	58%	14%	0	33%	54%	46%	58%	50%	54%	63%	33%
SOMETIMES	4%	4%	4%	0	0	0	0	0	4%	0	0	0	4%	0	4%	4%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	33%	17%	38%	25%	63%	54%	46%	75%	13%	54%	83%	92%	33%	37%	75%	12%
SOMETIMES	8%	8%	8%	4%	0	0	0	4%	8%	4%	4%	4%	4%	8%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: culinary show at New York Coliseum; food preparation for special functions; continuing simulation of hotel accounting departments from sales and purchasing records through financial statements; working on week-ends.

Special Settings: commercial kitchens (counters 32" high), bake shop; hotel and restaurant mock-up.

Special Tools and Equipment: kitchen equipment and utensils – knives, spatulas, ovens, mixing machines with sharp blades; service equipment.

Special Physical Demands: in cooking and baking related activities: lifting and carrying supplies and kitchen equipment up to 20 pounds; stockpots filled with liquid, roasting pans to and from ovens, basins with dough; grasping and manipulating ingredients and implements as in baking, mixing, stirring, pouring; moving, reaching, stretching; stewarding – ordering, storing, issuing food; motor coordination – working with kitchen machines, decorating bakery, washing dishes, tolerating noise, heat, stress of kitchens; accountancy and business operations – manipulating keys on office machinery; bookkeeping and related office work for protracted periods – preparing statements, reports, posting, making entries.

HOTEL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

The work requires effective oral communication and skill in dealing with people on all levels. In managerial positions, the ability to plan and execute programs, understand procedures, lead, and maintain production and inventory controls are required.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Hotel Clerk	Light	Indoors				✓		
Manager, Front Office	Light	Indoors				✓		
Manager, Catering	Light	Indoors			✓	✓		
Executive Housekeeper	Sedentary	Indoors				✓	✓	

JOB DESCRIPTIONS:

Hotel Clerk: accommodates hotel patrons by performing a combination of duties such as registering guests and assigning rooms, transmitting and receiving messages, answering inquiries and keeping records.

Manager, Front Office: coordinates front-office activities of hotel and resolves guests' hotel-related problems, and deals with unusual requests and inquiries.

Manager, Catering: coordinates activities of workers engaged in serving to patrons of hotel dining room, and plans and arranges banquets and other social functions.

Executive Housekeeper: directs institutional housekeeping programs to insure clean, orderly, and attractive condition of establishment.

PROFESSIONAL ASSOCIATIONS:

Hotel-Motel
Greeters International
Colburn Hotel
980 Grant Avenue
Denver, Colorado
80203

American Hotel
& Motel Association
88 Seventh Avenue
New York, N.Y.
10019

HUMAN SERVICES

(see also: CHILD CARE, COMMUNITY MENTAL HEALTH TECHNOLOGY, COMMUNITY SERVICE ASSISTANT)

These programs prepare students for paraprofessional positions in helping and human services organizations such as child care centers, nursing homes, geriatric centers and rehabilitation agencies. At Mohawk, the program in human services is divided into four options — mental health, mental retardation, social welfare, child care — from among which the students must choose at the beginning of the second year. At Onondaga, the student chooses a specialty after the first semester from among: children, older people, mentally or physically handicapped.

Among the courses offered are sociology, psychology, child psychology and development, adolescent psychology, marriage and family, aging, group dynamics, consumer economics, alcoholism and drug abuse and field work. At Genesee students also study conversational Spanish.

Job opportunities may have such titles as child care worker, social work associate, mental health worker, recreation or teacher aide, personnel assistant.

OFFERED AT:

Alfred		Kingsborough	
Borough of Manhattan		Mohawk Valley	
Columbia-Greene		Monroe	*
Corning	*	Onondaga	*
Genesee		Rockland	*
Herkimer		Schenectady	
Hudson Valley		Tompkins-Cortland	
Jamestown		Westchester	

**full or partial response to questionnaire*

HUMAN SERVICES

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◒	◕	●	●	●
RANGE	1 / 3	1 / 3	1 / 5	1 / 8	2 / 50	1 / 19	2 / 15	1 / 2
M.F.F.	1	3	0,2	0,2	0,40	3	0,3	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	50%	86%	14%	21%	33%	100%	43%	99%	83%
SOME-TIMES	0	0	76%	0	33%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative: oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	◕	◒	◕	◕	◕
YES	76%	73%	18%	64%	0	36%	73%	55%	45%	43%	99%	79%	21%	93%	36%	36%	43%	36%	50%
SOME-TIMES	0	0	0	0	0	0	0	9%	27%	0	0	0	0	0	7%	7%	0	0	7%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	◕	◕	●	●	●
YES	93%	7%	36%	64%	64%	93%	57%
SOME-TIMES	0	14%	0	0	7%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	29%	0	0	50%	100%	0	0	93%	93%	93%	0	7%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	71%	0	21%	◕	0	0	64%	7%	●	29%	7%	43%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◒	◕	◕	●	→	→	◕	◕	◕	◕	◕	◕	◕	◕
YES	64%	0	0	0	0	29%	29%	29%	0	0	0	0	0	0	0	0
SOME-TIMES	0	0	0	0	0	21%	14%	14%	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	◕	◕	◕	◕	◕	●	◕	●	●	●	●	●	●	●
YES	71%	7%	0	0	14%	7%	0	93%	36%	64%	79%	93%	7%	78%	28%	71%
SOME-TIMES	0	7%	0	0	0	0	0	0	0	0	0	0	0	14%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: self-directed behavior change followed by written report; observation and written report of group and individual behavior; class presentations.

Special Settings: child care center.

Special Tools and Equipment: tape recorders, typewriters, children's toys and climbing equipment.

Special Physical Demands: ability to participate in group discussions and counseling practicums; ability to visually observe children's activities.

Internship: eight to twelve hours a week at a community agency.

HUMAN SERVICES

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Required traits are patience, sympathy, stability under stress, tact, ability to relate to people of all levels and verbal facility. Despite the absence of such indications in the DOT, there is reason to expect that a psychiatric aid might be called upon to stoop, kneel, reach and handle when dealing with patients.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Psychiatric Aid	Heavy	Indoors		?	?	√		
Case Aid	Light	Indoors				√		

JOB DESCRIPTIONS:

Psychiatric Aid: assists mentally ill patients, working under direction of nursing and medical staff: observes, accompanies, feeds.

Case Aid: works on simpler aspects of cases or provides service to less complex cases, under close and regular supervision of a Caseworker, by counseling individuals and families requiring the assistance of a social service agency.

PROFESSIONAL ASSOCIATIONS:

National Association of
Human Services
Technologies
1127 11th Street
Main Floor
Sacramento, California
95814

National Association for
Mental Health
1800 N. Kent Street
Rosslyn, Virginia
22209

INDUSTRIAL TECHNOLOGY

(see also: MECHANICAL TECHNOLOGY, MANAGEMENT ENGINEERING TECHNOLOGY)

These programs, concerned with the optimal use of men and machines in industry, cover a wide variety of related curricula. Most schools offer a basic core of production process and managerial courses: production control, planning supply, motion and time study, plant lay-out, technical sales and personnel administration. Some schools offer options in industrial management and sales or industrial arts education (the latter generally requiring transfer to a four-year program upon completion). Others specialize in application of production and maintenance techniques to particular industries, e.g. Alfred: broadcasting equipment and facilities as well as electronics. Still another, Broome, places production management technology as a sub-major within the non-calculus general engineering technology curriculum. The basic emphasis of this degree program appears to be on production, maintenance and management rather than design, development or research. The jobs most frequently mentioned as following upon this course of study are: time study analyst, methods analyst, plant layout technician, production planner, quality control technician and work simplification technician.

OFFERED AT:

Alfred		Corning	*
Broome		Nassau	*
Canton			

**full or partial response to questionnaire*

INDUSTRIAL TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◒	0	●
RANGE	1 / 3	1 / 2	1 / 2	1 / 3	5 / 40	10 / 12	0	1 / 7
M.F.F.	2	1.5	0,4	0,3	30	0,12	0	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	33%	17%	8%	25%	0	0	0	0	0
SOMETIMES	0	8%	33%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	●	●	●	●	●
YES	100%	67%	50%	8%	17%	75%	33%	17%	33%	33%	100%	50%	33%	33%	100%	92%	25%	75%	67%
SOMETIMES	0	0	0	0	0	0	0	8%	8%	0	0	0	17%	17%	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	8%	58%	75%	92%	100%	100%
SOMETIMES	0	42%	0	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	50%	67%	25%	67%	25%	17%	8%	100%	100%	100%	8%	33%
SOMETIMES	0	0	0	0	0	8%	33%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	0	0	92%	0	●	58%	17%	17%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	92%	33%	8%	25%	0	25%	75%	75%	25%	42%	42%	33%	58%	42%	58%	25%
SOME-TIMES	0	0	0	0	0	8%	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	8%	50%	0	25%	42%	42%	17%	75%	33%	33%	83%	58%	16%	42%	58%	42%
SOME-TIMES	8%	8%	0	0	0	0	0	8%	8%	17%	0	0	0	25%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: non-compulsory field trips to local industrial plants.

Special Settings: machine shop; electronics laboratory; drafting room with drafting tables.

Special Tools and Equipment: machine tools; electronics test equipment; random sampling devices; drafting equipment; calculators; clipboard and stopwatch for time study.

Special Physical Demands: generally would require ability to move around freely; stretching to reach work area; motor coordination for time study work; lifting a maximum of 30 pounds of equipment; dexterity in handling of machines, assembling test circuits and interconnecting instrumentation; visual stimuli responsiveness for operating equipment, discerning resistor color codes, reading meters and calculator keyboards, adjusting oscilloscope patterns; working within limited time frame concurrent with production employee's performance; management-related activity involving phone and oral communication.

Professorial Comments: "There is higher level activity, more change on the job"; "Physical requirements on job may be more demanding in responses to visual stimuli, form perception and tactile sensitivity"; "Must think clearly, be accurate in calculations, be cool and calm and open to new ideas."

INDUSTRIAL
TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Worker should understand procedures and regulations and be able to apply his knowledge; be able to communicate orally technical and operational information; have form and spatial perception and some mathematical facility.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Production Coordinator	Light	Indoors				✓		
Industrial Engineering Technician	Light	Indoors				✓	✓	
Quality Control Inspector	Light	Indoors			✓	✓		

JOB DESCRIPTIONS:

Production Coordinator: expedites flow of work within or between departments of manufacturing plant according to production schedule; distributes work orders; confers with department supervisors; compiles reports.

Industrial Engineering Technician: studies and records time, motion, methods and speed involved in worker operations to improve efficiency.

Quality Control Inspector: inspects completed handtools and parts in process, using statistical sampling techniques and following printed procedures to evaluate quality of products.

PROFESSIONAL ASSOCIATIONS:

**American Institute of
Industrial Engineers
25 Technology Park/Atlanta
Norcross, Georgia
30092**

LEGAL SECRETARIAL SCIENCE

(see also: (SECRETARIAL SCIENCE (GENERAL), EXECUTIVE SECRETARIAL SCIENCE, MEDICAL SECRETARIAL SCIENCE)

Programs in Legal Secretarial Science are offered as a separate two-year entity, as a second-year specialization, or as a number of special courses which students may elect within a general secretarial program, depending upon the school.

In addition to course work in the humanities, typing, shorthand and transcription, students interested in the legal field may take courses in business law, accounting, legal vocabulary, and legal secretarial procedures.

Jobs may be available assisting lawyers and judges in law firms and courts, and in legal departments of businesses such as banks and insurance offices.

OFFERED AT:

Alfred	*	Monroe	*
Borough of Manhattan	*	Nassau	
Bronx	*	Onondaga	
Farmingdale	*	Queensborough	*
Hudson Valley	*	Schenectady	
Kingsborough	*	Westchester	*
Mohawk Valley	*		

**full or partial response to questionnaire*

LEGAL SECRETARIAL SCIENCE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	◕	◒	◔	●
RANGE	1/5	1/2.5	1/15	1/3	1/100	1/29	1/20	1/9
M.F.F.	3	1	0,3	0,1	0,20	0,1	0,2	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→		●	→	→
YES	39%	45%	5%	16%	36%	0	9%	50%	88%
SOMETIMES	2%	5%	36%	0	7%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative - oral?	exam alternative - take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	85%	59%	47%	71%	30%	62%	18%	58%	36%	53%	73%	64%	9%	52%	87%	54%	29%	19%	53%
SOMETIMES	2%	0	0	0	0	0	0	14%	3%	0	0	1%	1%	3%	3%	6%	15%	15%	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	◕	●	●	●
YES	46%	57%	60%	61%	78%	88%	87%
SOMETIMES	2%	8%	2%	3%	2%	1%	1%

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	63%	21%	33%	95%	92%	7%	21%	74%	82%	61%	8%	13%
SOMETIMES	0	7%	0	0	0	2%	7%	9%	3%	6%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	91%	0	1%	●	2%	0	74%	7%	●	28%	23%	25%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	84%	10%	8%	2%	1%	9%	75%	63%	3%	0	7%	9%	56%	25%	71%	22%
SOMETIMES	1%	0	0	0	0	0	0	0	0	0	0	0	1%	1%	2%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	◕	●	●
YES	39%	53%	15%	30%	54%	66%	74%	69%	36%	66%	75%	68%	30%	30%	54%	30%
SOMETIMES	9%	7%	5%	3%	7%	0	0	3%	5%	10%	9%	18%	6%	24%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: visits to law library, United Nations, law office, litigation procedures; bulletin board displays; oral reports, term papers.

Special Settings: typing rooms, dictation/transcription laboratories, library, study carrels.

Special Tools and Equipment: typewriters, stenographic machines with foot pedals and earphones, files, calculators, duplicating machines, other office equipment, audio-visual equipment.

Special Physical Demands: dexterity, eye-hand and eye-hand-foot coordination sufficient to manipulate stenographic machines; speed, hearing, writing ability for taking dictation; oral communication skills for telephone work.

LEGAL
SECRETARIAL
SCIENCE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should have a good understanding of the relationship between words and sentences and be able to adapt to routine, repetitious situations. Accuracy and form perception are also required.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Secretary	Sedentary	Indoors			✓	✓	✓	
Typist	Sedentary	Indoors			✓		✓	
Court Reporter	Sedentary	Indoors			✓	✓	✓	

JOB DESCRIPTIONS:

Legal Secretary: prepares legal papers and correspondence of a legal nature, such as summonses, complaints, motions and subpoenas; takes dictation, types and does other clerical and minor administrative tasks.

Typist: types letters, reports, stencils and other straight-copy material from rough draft or corrected copy; may verify totals on various forms or operate duplicating machines.

Court Reporter: records examination, testimony and other proceedings in court of law by manual or machine shorthand; reads portions of transcript during trial on judge's request and asks speakers to clarify inaudible statements. Transcribes recorded material using typewriter or dictates it into recording machine.

PROFESSIONAL ASSOCIATIONS:

**National Association of
Legal Secretaries
3005 E. Skelly Drive
Suite 120
Tulsa, Oklahoma
73092**

MANAGEMENT ENGINEERING TECHNOLOGY

These programs provide training in the planning and supervisory phases of manufacturing and may encompass time and motion study, statistical quality control, plant layout, materials handling and cost analysis. At Fashion Institute of Technology the focus is on the manufacture of apparel and textiles.

Courses may include physics, industrial management, drafting, mathematics, computer concepts, personnel administration, work design, machine tools, quantitative techniques in industrial engineering, manufacturing processes and cost analysis, marketing and accounting. The Fashion Institute of Technology offers a cooperative work program in the second year.

Employment may be found in positions with titles such as methods analyst, production planner, technical salesman, time study analyst and junior industrial engineer.

OFFERED AT:

Erie/North		Hudson Valley	*
Fashion Institute	*	Schenectady	

full or partial response to questionnaire

MANAGEMENT ENGINEERING TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	●	◕	●
RANGE	1 / 3	1 / 3	1 / 2	1.5 / 3	5 / 500	1 / 12	3 / 12	1 / 2
M.F.F.	1	3	1	0,2	5	2,6	8	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	71%	88%	0	0	0	0	13%	0	100%
SOME TIMES	0	0	75%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	100%	38%	38%	25%	25%	88%	50%	63%	38%	13%	99%	63%	25%	75%	75%	88%	38%	38%	75%
SOME TIMES	0	0	0	0	0	0	0	13%	38%	0	0	0	0	0	13%	0	13%	13%	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	88%	38%	75%	88%	88%	99%	88%
SOME TIMES	0	13%	13%	13%	13%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	75%	83%	80%	100%	83%	25%	13%	100%	100%	100%	0	13%
SOME TIMES	0	0	0	0	0	0	13%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	0	0	100%	0	●	63%	13%	0

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	100%	38%	0	0	0	25%	0	0	38%	25%	0	63%	38%	50%	63%	38%
SOMETIMES	0	0	13%	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	50%	50%	25%	38%	50%	38%	13%	100%	25%	50%	87%	100%	50%	25%	50%	50%
SOMETIMES	0	0	0	0	0	25%	13%	0	13%	0	13%	0	0	75%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: computational problems, interviewing managers, law case briefs, book reports.

Special Settings: view boxes for 16mm films, rooms with industrial sewing machines, key punch and computer terminal rooms, drafting rooms, machine shops.

Special Tools and Equipment: time study equipment, shears, screw drivers, wrenches, electronic data processor, machine tools (e.g. lathes, mills), sewing machines, drafting tools and audio-visual equipment.

Special Physical Demands: ability to lift up to 40 pounds; hand strength to hold time study board; eye-hand coordination for time studies and use of cutting and sewing machines; dexterity to manipulate tools and equipment listed above and for threading needles and grasping fabrics; tactile and form perception for pattern layout, fabric control and keyboard operation.

Professorial Comments: "Upon graduation, they will **not** spend time on sewing machines nor become sewing machine operators"; "A manager teaches **methodology**; physical input is secondary."

MANAGEMENT
ENGINEERING
TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Worker should understand procedures and regulations and be able to apply his knowledge; be able to communicate orally technical and operational information; have form and spatial perception and some mathematical facility. In management positions, individuals need organizational and verbal skill; ability to deal effectively with people on all levels; and have the capacity to plan and execute policies and programs.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Production Coordinator	Light	Indoors				√		
Industrical Engineering Technician	Light	Indoors				√	√	
Quality Control Inspector	Light	Indoors			√	√		
Manager, Industrial Organization	Sedentary	Indoors				√		

JOB DESCRIPTIONS:

Production Coordinator: expedites flow of work within or between departments of manufacturing plant according to production schedule; distributes work orders; confers with department supervisors; compiles reports.

Industrial Engineering Technician: studies and records time, motion, methods, and speed involved in worker operations to improve efficiency.

Quality Control Inspector: inspects completed handtools and parts in process, using statistical sampling techniques and following printed procedures to evaluate quality of products.

Manager, Industrial Organization: determines and executes administrative policies through subordinate managers; coordinates activities of departments such as production, distribution, engineering, maintenance, personnel and selling.

PROFESSIONAL ASSOCIATIONS:

Association of Consulting
Management Engineers
347 Madison Avenue
New York, N.Y.
10017

American Management
Association
135 W. 50th Street
New York, N.Y.
10020

MARKETING

These programs prepare students for business careers in manufacturing firms, service industries – e.g. banks, advertising agencies, insurance companies, tourism, transportation – and sales. Students are trained to consider customer needs and wants in conjunction with business objectives of profit, sales volume and market share. In some schools, such as Delhi, Alfred and Queensborough, marketing is an option within the business management curriculum.

Courses may include accounting, business organization and management, principles of marketing and retailing, salesmanship, promotion, advertising, consumer behavior, mathematics, data processing, transportation, economics and business law.

Graduates may find jobs in the promotion and distribution of products and services, credit and collection, wholesaling, sales and sales management with such titles as merchandise manager, management trainee, salesman, promotion manager, store manager.

OFFERED AT:

Adirondack	•	Herkimer	
Alfred	•	Hudson Valley	•
Borough of Manhattan	•	Jamestown	
Broome		Monroe	•
Columbia-Greene	•	Nassau	•
Delhi	•	Queensborough	•
Farmingdale		Rockland	
Genesee	•	Westchester	

**full or partial response to questionnaire*

MARKETING

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◔	◔	●	◕	◒	●
RANGE	1/5	1/3	1/6	1/6	1/120	1/10	1/25	1/5
M.F.F.	45	1	0,1	0,1	30	0,1	0,3	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◕	●	●	● →	→	→	● →	→	→
YES	52%	46%	9%	9%	33%	67%	10%	14%	71%
SOMETIMES	3%	4%	1%	0	17%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	● →	→	→	→	→	→	→	●	◕	●	●	●	●	●	●	●	●	●	●
YES	87%	77%	59%	46%	15%	84%	25%	30%	43%	22%	79%	45%	19%	68%	81%	79%	63%	44%	68%
SOMETIMES	3%	0	0	0	0	0	0	21%	3%	0	0	1%	1%	7%	0	1%	9%	9%	9%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	84%	24%	44%	81%	75%	82%	73%
SOMETIMES	1%	9%	4%	3%	9%	4%	4%

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	● →	→	→	→	→	●	●	●	●	●	●	●
YES	12%	10%	100%	50%	100%	19%	13%	78%	88%	79%	15%	15%
SOMETIMES	0	20%	0	0	0	0	4%	4%	1%	6%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	79%	0	9%		6%	0	46%	22%	◕	22%	15%	28%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	71%	7%	4%	0	0	10%	44%	44%	0	1%	0	1%	3%	4%	19%	0
SOME-TIMES	1%	0	0	1%	1%	3%	11%	11%	1%	1%	1%	3%	3%	1%	4%	1%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	34%	22%	3%	9%	21%	15%	6%	69%	34%	50%	71%	76%	56%	45%	51%	42%
SOME-TIMES	7%	7%	1%	4%	6%	1%	1%	7%	7%	6%	4%	12%	4%	35%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: term paper, assist community group with promotion and fund raising, creative advertising project, sales presentation critique, set up a retail store, multi-media advertising campaign, prepare a display window, Amtrak field trip and research paper, production of television commercial in school studio, oral case presentation, market research proposal, job search scenario, practice accounting set.

Special Settings: library, lecture hall with student response system (Monroe).

Special Tools and Equipment: samples and visual aides for sales presentations, television taping equipment, electronic calculator, computer terminal, audio-visual cassettes.

Special Physical Demands: dexterity and tactile perception for use of typewriters and calculators; vision to read computer print-outs, color discrimination, form perception for presentation of data on graphs; sufficient verbal skills for interviewing and persuasive oral presentations.

MARKETING

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Knowledge of contracts, credit and the market is generally expected of workers in this field. They should have verbal facility, initiative and the ability to relate to people effectively. Market Research Analysts usually hold graduate degrees, but individuals assisting them may be required to have traits similar to theirs, such as lucidity and organizational ability.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Advertising Assistant	Sedentary	Indoors			✓		✓	
Buyer	Light	Indoors				✓	✓	
Market Research Analyst	Sedentary	Indoors				✓	✓	

JOB DESCRIPTIONS:

Advertising Assistant: plans, or assists in planning, advertising program to promote sale of company's products; may write copy, do layout work, prepare sales kits and other such tasks, or direct other workers performing these duties.

Buyer: selects and orders merchandise for resale; may conduct meetings with selling personnel to introduce new merchandise and may price items for resale.

Market Research Analyst: researches market conditions in local, regional or national area to determine potential sales of a product or service through analysis of such statistical data as past sales, trade trends and competitors' prices, sales and methods.

PROFESSIONAL ASSOCIATIONS:

American Marketing
Association
222 S. Riverside Plaza
Suite 606
Chicago, Illinois
60606

Marketing Research
Association
P.O. Box 1415
Grand Central Station
New York, N.Y.
10017

MECHANICAL TECHNOLOGY

(see also: ELECTROMECHANICAL TECHNOLOGY)

These programs produce technicians prepared to work with management and engineering in solving problems of design and production, product quality, cost control and the meeting of specifications and tolerance levels in the use of conventional and novel machinery in manufacturing industries. Skills in various areas such as drafting, blueprint reading, machine shop, mechanical testing, metallurgical investigation, manufacturing processes and the conversion of chemical energy into mechanical power are stressed while a realistic balance between theory and practical application is practiced. Employment possibilities include: mechanical design, industrial sales, equipment service and maintenance, engineering assistant, mechanical draftsman.

OFFERED AT:

Adirondack		Mohawk Valley	*
Alfred		Monroe	
Bronx		Morrisville	
Broome		Niagara	
Canton		Onondaga	
Corning	*	Queensborough	
Dutchess		Staten Island	
Erie/North	*	Suffolk/Selden	*
Farmingdale		Tompkins-Cortland	
Hudson Valley		Westchester	*
Jamestown			

**full or partial response to questionnaire*

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	◕	◕	◕	◕	◕	◔	◔	◕
RANGE	1/4	1/2	1/2	2/4	4/40	1/24	1/8	1/7
M.F.F.	0,2	0,1	0,1	0,2	0,20	0,3	0,1	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	◕	◕	●	→	→	●	→	→
YES	33%	18%	2%	16%	29%	29%	2%	0	100%
SOMETIMES	0	0	17%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative- oral?	exam alternative- take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	●	●	◕	◕	◕
YES	91%	85%	56%	17%	71%	71%	20%	32%	56%	18%	82%	23%	45%	70%	75%	78%	23%	43%	45%
SOMETIMES	2%	0	0	0	0	0	0	2%	7%	0	0	0	0	2%	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	◕	●	●
YES	61%	36%	36%	66%	58%	68%	64%
SOMETIMES	0	7%	2%	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	◕	●	●	●	●	●
YES	70%	36%	100%	26%	75%	7%	2%	75%	75%	70%	7%	9%
SOMETIMES	0	16%	0	0	0	2%	9%	0	0	2%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	75%	0	2%	◕	0	0	68%	0	◕	16%	39%	16%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	48%	25%	18%	11%	7%	32%	27%	13%	7%	23%	20%	41%	73%	43%	75%	25%
SOME TIMES	5%	5%	5%	0	0	2%	0	0	0	2%	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
YES	27%	52%	30%	55%	27%	36%	16%	86%	25%	32%	91%	80%	41%	18%	86%	11%
SOME TIMES	0	0	0	0	7%	7%	7%	2%	5%	2%	0	7%	5%	70%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: weekly laboratory reports; architectural drafting (set of house plans drawn during semester); visits to local industry and engineering society meetings (non-compulsory); elective project such as a test machine modification, special visual aid; library assignments and minor research for new projects and techniques; writing a program in Numerical Control; creation of teaching aid models, transparencies, posters in technical graphics; review a film loop in fluid mechanics and write a paper on it; extra credit displays or models of fluid power equipment or systems applications; mandatory visits to manufacturing plants (no transportation provided).

Special Settings: electronics laboratory (standard worktables); drafting room with drafting tables; hydraulics laboratory; fluid mechanics laboratory; machine shop; heat power laboratory; physics laboratory; industrial machines laboratory; materials testing laboratory (testing for hardness, tension, torsion, fatigue, stress).

Special Tools and Equipment: oscilloscopes, resistors, random sampling devices, stopwatches, small parts, clipboards, drafting equipment, calculators, physics laboratory equipment, hammers, files, tonsile grips, gauges, Numerical Control machine, keypunch, computer, ozalid machine, microfilm equipment, quick-connect hose fittings, pumps, control devices (switches, valves), lathes, mills, drill press, machine inspection laboratory equipment.

Special Physical Demands: lifting maximum of 30 pounds; dexterity in assembling test circuits and interconnecting instrumentation as well as in turning nuts in assembling hydraulic circuits and handling drawing instruments; stretching up to 24" to make connections, up to 30" over drawing board; reading meters, calculator keyboards, dealing with color code resistors; hand strength for grasping cylinders and lines in hydraulic laboratory; motor coordination in fitting tubes together, operating machinery, manipulating micrometer and calipers; tactile sensitivity in use of machinery.

Professorial Comments: "Must always be prepared to work with new design and concepts"; "Use of hands and vision are required for materials testing laboratory but could be in wheelchairs and walkers"; "Hydraulics lift table and portable crane raise heaviest and largest specimens"; "Mechanical Technology is a very general field with many diverse roles"; "Technician is associate engineer — 70% theory, 30% skill".

MECHANICAL TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers may be required to learn and apply craft techniques as well as technical and theoretical principles related to drafting and engineering. Also expected are responsibility for the maintenance of standards and visual acuity, particularly relative to form and space perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Engineering Assistant-Mechanical Equipment	Sedentary	Indoors			√		√	
Mechanical Engineering Technician	Light	Indoors			√		√	√
Machine Repairman, Maintenance	Medium	Indoors			√	√	√	

JOB DESCRIPTIONS:

Engineering Assistant, Mechanical Equipment: develops detailed design drawings and related specifications of mechanical equipment according to engineering sketches and design proposal specifications.

Mechanical Engineering, Technician: applies theory and principles of mechanical engineering to develop and test machinery and equipment under direction of engineering staff and physical scientists; may assemble and analyze new equipment and prepare engineering drawings and charts.

Machine Repairman, Maintenance: repairs and maintains, according to blueprints and other specifications, production machinery and equipment.

PROFESSIONAL ASSOCIATIONS:

American Society of
Mechanical Engineers
345 E. 47th Street
New York, N.Y.
10017

MEDICAL LABORATORY TECHNOLOGY

These programs prepare students to do diverse chemical, biological, physical and bacteriological tests and procedures needed for the diagnosis of disease and to follow the course of the disease. Technicians trained in Medical Laboratory Technology are also used for blood banking, food and water analysis and animal testing.

Courses combine classroom and laboratory work in such subjects as biology, chemistry, zoology, microbiology, clinical laboratory, histological techniques, fundamentals of the human body and routine analysis. At some institutions laboratory work is done in approved hospital laboratories under college supervision. (Jamestown students must transfer to another laboratory-affiliated institution, such as Alfred, for the second year of work).

Employment as technicians or medical research assistants may be found in clinical and research laboratories in hospitals, pharmaceutical firms, educational institutions and private laboratories.

OFFERED AT:

Alfred	*	Monroe	
Bronx	*	Morrisville	
Broome		Nassau	*
Canton		New York City	
Corning	*	Onondaga	*
Delhi	*	Orange County	
Erie/North	*	Queensborough	
Farmingdale	*	Rockland	
Hostos		Staten Island	*
Hudson Valley	*	Ulster	*
Jamestown	*	Westchester	*

**full or partial response to questionnaire*

MEDICAL LABORATORY TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◒	◒	●
RANGE	1 / 4	1 / 2	1 / 4	1 / 4	5 / 50	1 / 15	2 / 40	1 / 4
M.F.F.	3	1	1	3	25	0,1	0,5	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	47%	10%	0	4%	100%	100%	28%	19%	6%
SOMETIMES	0	0	35%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	99%	84%	63%	39%	66%	83%	34%	71%	49%	23%	99%	31%	31%	68%	87%	75%	70%	29%	69%
SOMETIMES	0	0	0	0	0	0	0	6%	21%	0	0	1%	1%	3%	3%	3%	3%	3%	4%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	92%	73%	45%	90%	86%	79%	84%
SOMETIMES	0	1%	1%	3%	1%	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	97%	50%	69%	55%	89%	27%	21%	85%	92%	69%	7%	14%
SOMETIMES	0	1%	0	1%	0	1%	21%	1%	4%	4%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	94%	0	0	●	3%	0	80%	1%	●	54%	20%	8%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	62%	76%	54%	11%	0	85%	30%	15%	31%	49%	75%	72%	96%	65%	99%	15%
SOMETIMES	0	1%	0	1%	0	0	2%	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	25%	79%	24%	70%	70%	69%	51%	87%	24%	65%	94%	73%	21%	45%	56%	31%
SOMETIMES	0	0	0	0	4%	6%	4%	0	7%	0	1%	4%	0	43%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: weekly three-hour practicum; dismantling and reassembling delicate laboratory equipment; laboratory research project; term papers; auto-tutorial work, as needed.

Special Settings: laboratories with manual and automated equipment; library.

Special Tools and Equipment: laboratory equipment, some of it sophisticated and delicate, such as: dissecting tools, microscopes, glassware, spectrophotometers, titrators, microtome, centrifuge, sterilizers, gas burners; computer-aided instructional equipment.

Special Physical Demands: ability to reach, eye-hand coordination, dexterity to manipulate equipment listed above and for such procedures as pouring into test tubes, preparing blood smears, asceptic technique, pipetting; capacity to carry up to ten pound weights; vision and form percéption for interpretation of laboratory specimens; speed for time-dependent laboratory procedures; endurance for lengthy, uninterrupted procedures; ability to enter laboratory results in writing and to communicate by telephone.

MEDICAL LABORATORY TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should have some facility with mathematics, form perception and an interest in detail.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Medical Laboratory Assistant	Light	Indoors			✓		✓	

JOB DESCRIPTIONS:

Medical Laboratory Assistant: performs routine tests in medical laboratory for use in treatment and diagnosis of disease; prepares tissue samples, takes blood samples, prepares vaccines, uses microscopes, micrometers and similar instruments.

PROFESSIONAL ASSOCIATIONS:

International Society for
Clinical Laboratory
Technology
805 Ambassador Bldg
411 N. Seventh Street
St. Louis, Missouri
63101

American Medical
Technologists
710 Higgins Road
Park Ridge, Illinois
60068

MEDICAL OFFICE ASSISTANT

These programs prepare students to function effectively as receptionists, secretaries, technicians, accountants and general aides for physicians.

Required courses may include biology, chemistry, pharmacology, microbiology, anatomy, physiology, clinical laboratory techniques such as urinanalysis and sample blood tests, terminology, medical accounting, shorthand and typing. At Broome in the last semester students spend two days a week in a physician's office.

Graduates may find employment as medical office assistants in physicians' offices, medical centers, industrial medical offices, nursing homes or as assistants or technicians in laboratories.

OFFERED AT:

Alfred	*	Erie/North	*
Broome	*	Niagara	
Dutchess	*	Westchester	*

**full or partial response to questionnaire*

MEDICAL OFFICE ASSISTANT

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◒	◔	●
RANGE	1/6	1/3	1/5	1/3	5/100	1/20	2/15	1/3
M.F.F.	3	1	0,1	0,1	20	0,1	0,2	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	43%	39%	6%	3%	100%	100%	10%	0	67%
SOMETIMES	4%	6%	29%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	◕	◕	●
YES	97%	60%	47%	70%	50%	67%	20%	70%	33%	35%	90%	71%	26%	58%	94%	77%	51%	26%	74%
SOMETIMES	0	0	0	0	0	0	0	13%	23%	0	0	0	0	6%	0	0	6%	6%	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	84%	45%	52%	84%	77%	87%	80%
SOMETIMES	0	3%	6%	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	68%	30%	14%	65%	93%	16%	10%	94%	98%	81%	10%	19%
SOMETIMES	6%	9%	0	0	0	6%	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	90%	0	0	●	0	0	74%	3%	◕	39%	13%	19%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	81%	16%	6%	6%	3%	26%	25%	13%	13%	23%	26%	26%	74%	52%	74%	13%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	6%	0	6%	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	39%	45%	19%	39%	52%	52%	52%	68%	10%	68%	74%	68%	23%	42%	45%	29%
SOME-TIMES	3%	0	0	6%	13%	16%	13%	3%	3%	0	3%	6%	0	32%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: library projects, job search scenario, visit to communications media center.

Special Settings: typewriting room, science laboratory.

Special Tools and Equipment: typewriters, calculators, telephones, computers, transcribers, duplicating machines, dissecting tools, laboratory glassware, syringes, lancets, microscopes, first aid equipment, autoclaves, splints, scales.

Special Physical Demands: dexterity, coordination and tactile perception to use equipment and tools listed above; strength to lift patients; ability to discriminate colors and shapes in laboratory work; speed for medical emergencies, including cardiopulmonary resuscitation; verbal and oral skills for interaction with patients and usual secretarial duties.

MEDICAL OFFICE ASSISTANT

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Individuals in these positions should relate to people effectively, have verbal facility, tact, precision and form perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Medical Assistant	Light	Indoors			✓	✓		
Medical Secretary	Sedentary	Indoors			✓	✓	✓	

JOB DESCRIPTIONS:

Medical Assistant: under the direction of a physician, assists in the examination and treatment of patients through such tasks as preparing treatment rooms and instruments; draping, weighing and interviewing patients; assisting in laboratory and office.

Medical Secretary: prepares medical charts and records for doctor or hospital personnel, utilizing medical terminology; may prepare and send bills and record appointments.

PROFESSIONAL ASSOCIATIONS:

American Association of
Medical Assistants Inc.
One E. Wacker Drive
Suite 1510
Chicago, Illinois
60601

American Association of
Physician's Assistants
488 Madison Avenue
New York, N.Y.
10022

MEDICAL RECORD TECHNOLOGY

The Medical Record Technician works in a hospital, clinic or nursing home assisting in the preparation, analysis, and preservation of the permanent report of patients' diagnoses and treatments which are kept for medical, scientific and legal purposes. Tasks include reviewing records for completeness and accuracy and translating diseases and operations into proper coding symbols. Courses may include medical record science, medical terminology, transcription, typewriting, anatomy, physiology, biology, pharmacology and practical experience. The practical work is sometimes offered in a hospital medical record department. At Broome directed practice is offered in three or four week sessions, with 40 laboratory hours each week.

OFFERED AT:

Alfred	*	Broome	*
Borough of Manhattan	*	Monroe	*

**full or partial response to questionnaire*

MEDICAL RECORD TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◕	◒	●
RANGE	1 / 5	1 / 3	1 / 2	1 / 3	1 / 100	1 / 10	2 / 30	1 / 3
M.F.F.	3	1	0,1	0,3	0,10	0,2	0,20	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	● →	→	→	● →	→	→
YES	24%	14%	0	9%	50%	0	36%	88%	88%
SOME-TIMES	6%	0	50%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	● →	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	91%	60%	70%	35%	35%	80%	30%	25%	70%	27%	95%	68%	27%	73%	77%	86%	41%	50%	45%
SOME-TIMES	0	0	0	0	0	0	0	10%	15%	0	0	5%	5%	0	5%	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	◕	●	●	●
YES	91%	64%	59%	68%	68%	95%	91%
SOME-TIMES	0	9%	5%	0	9%	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	● →	→	→	→	→	●	●	●	●	●	●	●
YES	50%	18%	50%	82%	100%	41%	9%	68%	91%	55%	5%	0
SOME-TIMES	0	0	0	0	0	0	5%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	86%	0	0	●	14%	0	73%	0	●	55%	14%	18%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◔	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	82%	5%	0	9%	0	0	0	0	0	5%	0	18%	45%	14%	45%	27%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	32%	23%	5%	0	55%	64%	59%	73%	5%	86%	77%	82%	18%	36%	55%	27%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	9%	0	0	9%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: research paper, personal medical record.

Special Settings: transcription laboratory, medical record laboratory, anatomy/physiology laboratory, library.

Special Tools and Equipment: typewriter, dictaphone, computer terminal, television taping equipment, dissecting tools, microscope.

Special Physical Demands: eye-hand coordination for typing and transcribing; eye-hand-foot coordination for dictaphone; dexterity for typing, filing, dissecting; tactile perception for touch typing; oral and written communication skills for receiving requests for and transmitting patient record information.

MEDICAL RECORD TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should be able to obtain pertinent information from reading, be accurate in detailed clerical work, understand systematic record-keeping and data-gathering procedures, and have form perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Medical Record Clerk	Light	Indoors			✓			
Medical Record Librarian	Light	Indoors			✓	✓		

JOB DESCRIPTIONS:

Medical Record Clerk: classifies medical records of hospital patients and compiles statistics; keeps daily statistical record of patient information.

Medical Record Librarian: compiles and maintains medical records of hospital and clinic patients; reviews records for completeness and contacts medical personnel to obtain missing data, codes, files; releases information to authorized persons.

PROFESSIONAL ASSOCIATIONS:

American Medical
Record Association
875 N. Michigan Avenue
Suite 1850
John Hancock Center
Chicago, Illinois
60611

MEDICAL SECRETARIAL SCIENCE

(see also: (SECRETARIAL SCIENCE (GENERAL), EXECUTIVE SECRETARIAL SCIENCE, LEGAL SECRETARIAL SCIENCE)

Programs in Medical Secretarial Science are sometimes offered as a group of courses students may elect within a general secretarial science program, but frequently they are given as a second year option in a general program.

In addition to general secretarial skills, students take courses in anatomy/physiology, medical terminology, medical office procedures, medical accounting, economics and business law.

Employment as a medical secretary in a physician's office, a clinic or hospital is possible upon graduation.

OFFERED AT:

Adirondack	•	Mohawk Valley	•
Bronx	•	Nassau	
Columbia-Greene	•	North Country	•
Corning		Onondaga	
Farmingdale	•	Orange County	
Hudson Valley	•	Queensborough	•
Jefferson	•	Schenectady	
Kingsborough	•		

**full or partial response to questionnaire*

MEDICAL SECRETARIAL SCIENCE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	◕	◒	◒	●
RANGE	1/5	1/2.5	1/6	1/3	2/80	1/36	1/20	1/9
M.F.F.	19	1	0,3	0,1	0,20	0,1	0,2	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	32%	21%	0	16%	0	44%	9%	40%	100%
SOMETIMES	0	5%	50%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	●	●	●	●	●
YES	80%	70%	49%	60%	34%	79%	19%	57%	32%	50%	59%	64%	9%	57%	84%	61%	28%	28%	52%
SOMETIMES	4%	0	0	0	0	[illegible]	0	11%	9%	0	0	2%	2%	2%	0	4%	14%	14%	4%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	◕	●	●	●
YES	55%	63%	71%	70%	82%	71%	85%
SOMETIMES	2%	2%	0	0	0	2%	2%

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	61%	17%	33%	69%	83%	9%	25%	75%	75%	64%	7%	14%
SOMETIMES	0	0	0	0	0	4%	7%	7%	4%	7%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	86%	0	0	●	4%	0	71%	7%	◕	25%	30%	13%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	80%	13%	7%	5%	5%	21%	75%	33%	13%	7%	11%	13%	55%	21%	73%	36%
SOME-TIMES	2%	0	0	0	0	0	0	0	0	0	0	0	0	0	2%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	25%	59%	9%	16%	54%	64%	59%	68%	30%	59%	70%	71%	23%	43%	62%	27%
SOME-TIMES	7%	5%	4%	4%	9%	0	0	5%	16%	7%	7%	14%	9%	46%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: cooperative work/study; term paper.

Special Settings: office, typing room, business machine room, biology laboratory.

Special Tools and Equipment: correlated slides and cassettes; typewriters; transcribing machines; microscope; dissecting tools, calculators.

Special Physical Demands: dexterity, manipulating, reaching sufficient to operate office machines and laboratory equipment; eye-hand-foot coordination for dictating/transcribing equipment; speed for shorthand/transcribing.

Internships: field work in hospital medical record rooms, physician's office.

MEDICAL
SECRETARIAL
SCIENCE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should have a good understanding of the relationship between words and sentences and be able to adapt to routine situations. Accuracy and form perception are also needed.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Medical Secretary	Sedentary	Indoors			√	√	√	
Typist	Sedentary	Indoors			√		√	

JOB DESCRIPTIONS:

Medical Secretary: prepares medical charts and reports for doctor or hospital personnel utilizing medical terminology; may prepare and send bills to patients and record appointments; takes dictation, types and does other clerical and minor administrative tasks.

Typist: types letters, reports, stencils and other straight-copy material from rough draft or corrected copy; may verify totals on various forms or operate duplicating machines.

PROFESSIONAL ASSOCIATIONS:

**National Registry of
Medical Secretaries
P.O. Box 360
Newtown Highlands,
Massachusetts
02161**

MORTUARY SCIENCE

Mortuary Science prepares a student to be a manager of a funeral home, an embalmer or both.

The curricula of these programs are built around a basic foundation of general educational, science, business and accounting courses with relevance to mortuary science – courses on subjects such as the psychology of grief, funeral practice, fundamentals of chemistry, microbiology, economics or accounting. In the second year, theoretical course work is likely to be coordinated with practical laboratory experiences. Mortuary management and law may include field trips and regular assignments to various funeral homes; courses in embalming theory and practice and in the restorative arts may include active participation in embalming. At Hudson Valley, for example, each student must participate in the embalming of at least ten bodies; at Farmingdale there are similar off-campus field experiences and at Herkimer, where there is a second year specialization either in funeral home management or embalming, there are cooperative arrangements with an institute of funeral service and a school of embalming and mortuary science.

After two years of state-approved post-secondary education a student is eligible to take the state or national licensing examination. Before becoming a licensed funeral director a student must also serve one year as a "registered resident" in an approved funeral home.

A student may be employed as a funeral director, undertaker, embalmer, or as a diener or morgue attendant in a hospital.

OFFERED AT:

Farmingdale	*	Hudson Valley	*
Herkimer			

**full or partial response to questionnaire*

MORTUARY SCIENCE

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	◕	◕	◒	◒	●
RANGE	2 / 3	1 / 1.5	1	2 / 5	15 / 50	1 / 5	6 / 10	1 / 5
M.F.F.	2	1	1	0,3	0,30	0,2	0,8	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	● →	→	→	● →	→	→
YES	78%	8%	0	15%	100%	0	0	0	0
SOME-TIMES	0	0	69%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	● →	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	92%	100%	50%	33%	17%	67%	25%	58%	33%	23%	100%	54%	46%	46%	100%	38%	85%	38%	54%
SOME-TIMES	0	0	0	0	0	0	0	25%	8%	0	0	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	38%	54%	100%	100%	100%	100%
SOME-TIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	● →	→	→	→	→	●	●	●	●	●	●	●
YES	62%	0	0	88%	0	46%	15%	92%	92%	69%	8%	38%
SOME-TIMES	0	13%	0	0	0	0	23%	0	8%	8%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	46%	0	23%	◕	0	0	38%	23%	◕	15%	15%	31%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	● →	→	→	●	●	●	●	●	●	●	●
YES	77%	38%	31%	8%	0	46%	33%	0	31%	31%	38%	38%	62%	46%	69%	38%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	◕	◕	●	◕	●	●	●	●	●	●	●
YES	46%	70%	23%	62%	46%	46%	46%	92%	15%	85%	85%	46%	8%	54%	23%	38%
SOME-TIMES	0	0	0	0	0	0	0	0	15%	0	8%	8%	8%	8%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: library reports; three papers with assigned topics and format on anatomical and vascular subjects; basic microbiology project; visits to pathology laboratory.

Special Settings: laboratory for dissection; learning resource center for anatomical and vascular study; microbiology laboratory; large open area for teaching restorative arts; laboratory for embalming practicum.

Special Tools and Equipment: microscope, large trays, transfer needles, staining bottles, trays of cultures, burners, autoclaves, hot plates, dissection lamps and tools, modeling instruments, surgical instruments, needles and thread, paint brushes.

Special Physical Demands: lifting and carrying bodies up to 200 pounds, caskets up to 300 pounds, microscope up to 30 pounds; manual coordination for manipulating small objects in anatomy and microbiology laboratories; using hair, needles, thread, wax, cosmetics in embalming and restoring; stretching and reaching in laboratory, in massage of bodies, in dressing bodies; adjusting water flow, using embalming machines; visual, color, form and tactile perception for science and mortuary laboratory techniques — differentiating organs, vascular systems, recognizing and comparing anatomical differences; reading slides; cultivating, isolating, staining and observing bacterial cultures; observing color, lighting in modeling wax restoration of facial features and dressing bodies; moving around embalming room quickly; reading financial statements, accounts and working with figures.

Professorial Comments: "Arrangements can be made for most handicapped students except the blind"; "Course can be handled — occupation not".

MORTUARY
SCIENCE

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

In managerial jobs, workers should be able to plan and execute activities, have numerical and verbal facility, and have the ability to relate effectively to people. Embalmers must learn and apply craft techniques, maintain standards and have form and spatial perception.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Funeral Director	Medium	Indoors			✓	✓		
Embalmer	Heavy	Indoors			✓		✓	

JOB DESCRIPTIONS:

Funeral Director: arranges and directs funeral services including interviewing families and coordinating activities of other workers who move body and prepare it for burial.

Embalmer: prepares body for interment in conformity with legal requirements.

For additional information about licensing: Bureau of Funeral Directing, State Department of Health, Empire State Plaza, Tower Building, Albany, N.Y. 12237.

PROFESSIONAL ASSOCIATIONS:

National Funeral Directors
& Morticians Association
734 W. 79th Street
Chicago, Illinois
60620

National Foundation
of Funeral Services
Central Street &
Ashland Avenue
Evanston, Illinois
60201

NATURAL RESOURCE CONSERVATION

(see also: ENVIRONMENTAL TECHNOLOGY)

This course of study prepares students to work as technicians in resource conservation and management (for example, relative to fisheries, wildlife, forests) and water treatment.

Courses may include such subjects as biology, chemistry, field techniques and conservation law, soil and water technology, water supply, wastewater, fisheries, forest management, environmental measurement, principles of ecology and principles of soil, forest and water.

Graduates may find employment opportunities as wildlife, fishery, forest or soil technicians, land managers, conservation officers or environmental research and pollution abatement technicians.

OFFERED AT:

Finger Lakes	*	Fulton-Montgomery	
Dutchess	*	Morrisville	

**full or partial response to questionnaire*

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NATURAL RESOURCE CONSERVATION

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◒	◕	●	●	●
RANGE	1 / 3	1 / 2	1 / 4	1 / 3	10 / 70	1 / 20	2 / 10	1 / 3
M.F.F.	3	1	0,2	0,2	0,25	0,3	10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	43%	38%	23%	46%	33%	67%	23%	99%	33%
SOMETIMES	0	0	46%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	◕	◕	◕	●
YES	85%	82%	9%	73%	64%	73%	55%	36%	9%	62%	99%	15%	77%	77%	46%	62%	38%	30%	77%
SOMETIMES	0	0	0	0	0	0	0	9%	18%	0	0	0	0	0	0	0	15%	15%	8%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	85%	38%	15%	54%	85%	69%	86%
SOMETIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	54%	86%	50%	43%	100%	23%	8%	69%	85%	23%	0	23%
SOMETIMES	0	0	0	0	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	23%	0	69%	●	0	0	38%	38%	◕	0	31%	38%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	69%	23%	23%	15%	15%	31%	0	0	23%	31%	23%	31%	46%	31%	38%	23%
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	◕	●	●	◒	●	◕	◕	◕	◕	◕	◕
YES	31%	46%	23%	38%	8%	0	0	38%	15%	23%	62%	46%	0	38%	38%	31%
SOME TIMES	0	0	0	0	8%	8%	8%	0	8%	0	0	0	0	15%	0	0

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: laboratory projects; develop demonstration of environmental measurement techniques – e.g. stream sampling, plant census, bacterial monitoring; panel discussions, multi-media presentations.

Special Settings: outdoors, chemistry or environmental science laboratory, auto-tutorial laboratory.

Special Tools and Equipment: laboratory equipment such as spectrophotometers; wide range of unspecified environmental laboratory tools and equipment; meters, nets, sieves, chain saws, boats.

Special Physical Demands: sufficient dexterity and coordination for laboratory equipment and measurements, handling delicate organisms and to prevent personal injury; capacity to move over difficult terrain and lift equipment, logs, rocks, and such weighing up to 80 pounds.

Internships: field internships.

NATURAL
RESOURCE
CONSERVATION

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Rangers and fish and game wardens should know laws and regulations, have verbal facility with people, tact, the ability to perform in the face of resistance and physical stamina. Traits needed for other positions are the ability to learn and apply basic technical principles, some mathematical skill, spatial perception and often physical stamina.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Park Ranger	Very Heavy	Outdoors	✓		✓	✓	✓	
Fish and Game Warden	Light	Outdoors				✓	✓	
Instrumentation Technician	Light	Indoors			✓		✓	✓
Landscape Gardener	Medium	Outdoors		✓	✓		✓	✓

JOB DESCRIPTIONS:

Park Ranger: enforces laws, regulations and policies in state or national park; may register visitors, provide information, investigate accidents, patrol.

Fish and Game Warden: patrols assigned area to prevent game law violations, investigates reports of damage by wildlife and compiles biological data.

Instrumentation Technician: devises, sets up and operates instrumentation involved in operational and environmental testing of mechanical, structural or electrical equipment, and translates data for use by engineering personnel.

Landscape Gardener: plans and executes small scale landscaping operations and maintains grounds and landscape of private and business residencies.

PROFESSIONAL ASSOCIATIONS:

Natural Resources
Council of America
1025 Connecticut Ave. N.W.
Suite 914
Washington, D.C.
20036

Nature Conservancy
1800 N. Kent Street
Suite 800
Arlington, Virginia
22209

NURSERY EDUCATION

(see also: CHILD CARE)

Through general education and training in specific skills, these programs are designed to increase the student's understanding of young children, their development, care and education. Graduates are qualified to work with young children under public or private auspices.

Students may encounter courses such as psychology; sociology; biology; nutrition; nursery education; childhood education; family, child, and community health; art, music and literature for children; art practicum; effective speech and, almost always, fieldwork.

Jobs may be found available as assistant teachers in day care centers, nursery schools, Headstart centers, pre-kindergarten, special education programs; or as counselors in recreation centers, camps or residential children's homes.

OFFERED AT:

Canton	*	Hostos	
Cayuga		Hudson Valley	
Cobleskill	*	Kingsborough	
Dutchess	*	Nassau	
Farmingdale	*	Suffolk/Selden	*

**full or partial response to questionnaire*

NURSERY EDUCATION

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◒	◒	●	◕	◕	●
RANGE	1/3	1/3	1/3	1/6	10/60	1/20	1/20	1/4
M.F.F.	1	1	0,1	0,3	20	0,2	0,6	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	84%	63%	7%	37%	9%	82%	13%	100%	50%
SOMETIMES	0	3%	57%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	◕	◕	◕	◕	●
YES	90%	63%	44%	63%	33%	70%	81%	33%	33%	57%	97%	27%	70%	83%	70%	67%	63%	23%	73%
SOMETIMES	0	0	0	0	0	0	0	11%	26%	0	0	0	0	0	0	0	0	0	3%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	93%	50%	33%	90%	90%	73%	93%
SOMETIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	33%	40%	50%	20%	100%	13%	3%	93%	90%	93%	0	33%
SOMETIMES	0	40%	0	20%	0	0	3%	0	0	3%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	53%	0	40%	●	0	0	63%	23%	●	3%	50%	33%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	77%	30%	7%	20%	17%	47%	64%	43%	3%	17%	20%	23%	40%	37%	50%	33%
SOMETIMES	0	0	0	0	3%	0	0	7%	0	7%	3%	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	◕	●	●	●
YES	63%	53%	30%	40%	17%	23%	0	93%	3%	37%	90%	93%	7%	63%	47%	47%
SOMETIMES	0	0	0	0	13%	0	0	0	3%	20%	3%	0	3%	27%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: lesson plans; case studies; original music and music programs; writing, binding and presenting an original children's story; creating learning aids; writing a magazine article; evaluating materials.

Special Settings: nursery school, wood working room, library, institutional center.

Special Tools and Equipment: autoharp, piano, rhythm instruments, flutes, guitars, art materials, woodworking tools, trampoline, cooking appliances, furniture sized for children, film projector, tape cassettes, microscope, dissecting tools.

Special Physical Demands: coordination for creative dramatics and movement to music and ball-playing; dexterity for musical instruments, art work, puzzles and other nursery equipment; ability to lift children and equipment (up to 45 pounds); capacity to write children's progress records and communicate orally with children and parents; sight for observation of children's activities; endurance for 1½ hour workshops; speed for dealing with emergencies.

NURSERY EDUCATION

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Requirements are patience, sympathy and stability under pressure. Also, despite the DOT indication to the contrary, it is reasonable to expect that a nursery school teacher may have to work outdoors at times as well as stoop and kneel.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Nursery School Teacher	Light	? Indoors		?	√	√		
Child Care Assistant	Medium	Indoors		?	√	√	√	

JOB DESCRIPTIONS:

Nursery School Teacher: organizes and leads activities of pre-kindergarten children in nursery schools or in playrooms operated for patrons of theatres, department stores, hotels and such; maintains discipline, helps children develop good personal habits; may prepare and serve food or refreshments.

Child Care Attendant: cares for children housed in government institution under supervision of superintendent of home; helps children with personal care; leads recreational activities; may supervise housekeeping by other workers; may provide counseling to mentally disturbed, delinquent or handicapped children.

PROFESSIONAL ASSOCIATIONS:

American Association of
Elementary/Kindergarten/
Nursery Educators
1201 16th Street N.W.
Washington, D.C.
20036

National Association for
Education of Young Children
1834 Connecticut Avenue
Washington, D.C.
20009

NURSING

Nurses contribute to the maintenance and improvement of health and the prevention of illness by caring for patients with other members of the health care team. Graduates of these nursing programs are eligible for the state licensure examination for Registered Professional Nurse.

The programs combine lectures, college laboratory and clinical laboratory experiences and include courses in subjects such as maternal, child and family health; physical and mental illness; anatomy; physiology; drug calculations and community health resources.

Nurses are prepared to give direct personal health services in hospitals and public health agencies providing acute and chronic health care.

In New York State only a licensed person may use the title of Registered Professional Nurse. Requirements for this license include a diploma or degree in professional nursing, a passing score on a state licensing examination and a minimum age of eighteen years.

OFFERED AT:

Adirondack	*	Jefferson	*
Alfred	*	Kingsborough	*
Borough of Manhattan	*	Mohawk Valley	*
Bronx		Monroe	*
Broome		Morrisville	
Canton		Nassau	*
Cayuga	*	New York City	*
Finger Lakes		Niagara	
Corning	*	Onondaga	*
Dutchess	*	Orange County	*
Erie/North	*	Queensborough	*
Farmingdale	*	Rockland	*
Fulton-Montgomery	*	Staten Island	*
Genesee	*	Suffolk/Selden	*
Hostos	*	Tompkins-Cortland	
Hudson Valley	*	Ulster	*
Jamestown	*		

**full or partial response to questionnaire*

NURSING

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodclogy. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◕	◕	●
RANGE	1/7	1/6	1/4	2/12	10/300	1/20	1/30	1/9
M.F.F.	3	3	2	3	0,18	0,1	0,3	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	79%	34%	3%	39%	15%	73%	25%	87%	70%
SOMETIMES	1%	2%	50%	1%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	94%	82%	53%	77%	77%	90%	56%	72%	43%	25%	97%	51%	24%	56%	83%	53%	51%	37%	52%
SOMETIMES	1%	0	0	0	0	0	0	16%	22%	0	0	0	0	2%	1%	2%	2%	2%	5%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	96%	66%	62%	90%	84%	86%	93%
SOMETIMES	0	5%	10%	2%	7%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	84%	31%	32%	43%	91%	40%	20%	75%	85%	62%	15%	33%
SOMETIMES	2%	19%	12%	8%	6%	5%	14%	3%	2%	5%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	89%	0	4%	●	2%	0	59%	23%	●	39%	10%	29%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	●	●	●	● →	→	→	●	●	●	●	●	●	●	●
YES	78%	64%	63%	63%	48%	78%	86%	65%	66%	69%	69%	70%	88%	77%	88%	68%
SOMETIMES	0	1%	2%	3%	3%	2%	1%	2%	1%	2%	2%	3%	1%	3%	1%	1%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	75%	79%	65%	73%	69%	71%	48%	94%	20%	81%	86%	84%	19%	79%	17%	74%
SOMETIMES	2%	1%	1%	3%	6%	8%	13%	1%	7%	0	6%	2%	6%	13%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: honors project, case history, case presentation, nursing care plan, investigation of community health resources, research, group projects, visits to community health agencies, term papers, multi-media presentation.

Special Settings: hospitals, other health care facilities, college nursing laboratory, schools, senior citizens centers, autotutorial laboratory, library, anatomy and physiology laboratories.

Special Physical Demands: sufficient strength, dexterity, coordination to move, lift, bathe, restrain patients, change beds and use the equipment listed above; sight, tactile, form, depth and color perception to accurately discern patients' health signs and symptoms, and for laboratory work; speed for response to emergencies; oral communication skill for patient/nurse interaction vital to care; writing skills for recording vital patient information as part of legal documentation of care; endurance for up to two hours continuous laboratory work.

Internships: field placements in health care facilities.

NURSING

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Nurses should be able to relate well to people, absorb and apply technical training, be precise in preparing and administering medication and treatment and keeping charts; and perceive differences in anatomical components.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
General Duty Nurse	Medium	Indoors			√	√	√	

JOB DESCRIPTIONS:

General Duty Nurse: renders general nursing care to patients in hospital, infirmary, sanitarium or similar institution; administers prescribed medication and treatment; reports on patient's condition; may rotate among various clinical services.

For further information on licensing: Ms. Mildred S. Schmidt, Exec. Secretary, State Board for Nursing, State Education Department, 99 Washington Avenue, Albany, N. Y. 12230.

PROFESSIONAL ASSOCIATIONS:

American Nurses
Association
2420 Pershing Road
Kansas City, Missouri
64108

National League
for Nursing
Ten Columbus Circle
New York, N.Y.
10019

OCCUPATIONAL THERAPY ASSISTANT

Occupational Therapy is designed to serve individuals who have suffered physical injuries, the aging, and those who are developmentally or physically disabled. Therapists and their assistants aid patients in achieving their maximum functional level through productive play activities, the re-teaching of performance of activities of daily living, instruction in the use of prostheses, and planned group activities.

Program courses may include biology, psychology, group dynamics, fundamentals of abnormal physical conditions, crafts, occupational therapy skills and media, and health concepts, as well as clinical experience.

Employment may be found in hospitals, rehabilitation centers, psychiatric clinics and nursing homes.

An occupational therapy assistant can be certified to practice in New York State upon completion of a two-year associate degree program.

OFFERED AT:

Erie/North		Orange County	
LaGuardia	*	Rockland	

**full or partial response to questionnaire*

OCCUPATIONAL THERAPY ASSISTANT

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◕	◕	●
RANGE	1/4	1/1.5	1/5	3/3.5	20/50	1	5/20	1/2
M.F.F.	3	1	0,1	0,3.5	20	1	0,20	2

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◕	●	●	●	→		◕	→	
YES	67%	67%	33%	17%	0	100%	33%	100%	100%
SOMETIMES	0	0	67%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	◕	→						●	●	◕	◕	◕	◕	◕	◕	◕	◕	◕	◕
YES	50%	67%	0	33%	67%	67%	100%	100%	33%	0	67%	50%	0	67%	67%	67%	67%	17%	50%
SOMETIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	◕	◕	◕	◕	◕	◕	◕
YES	67%	67%	67%	67%	67%	67%	67%
SOMETIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting? →	stairs or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	◕	◕	◕	◕	◕	◕	◕
YES	67%	50%	100%	50%	100%	0	0	67%	67%	50%	0	17%
SOMETIMES	0	0	0	0	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	0	0	67%	33%	◕	0	17%	33%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◒	◕	◕	◕	→	→	◕	◕	◕	◕	◕	◕	◕	◕
YES	100%	67%	0	0	0	33%	0	0	33%	33%	33%	33%	33%	33%	33%	0
SOME-TIMES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	◕	◕	◕	◕	◕	◕	◕	●	◒	◕	●	●	●	●	●	●
YES	17%	33%	0	33%	0	50%	17%	100%	33%	33%	83%	67%	0	50%	67%	0
SOME-TIMES	0	0	0	0	0	0	0	0	0	17%	0	33%	0	50%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: ten-minute oral presentation, panel discussions, case studies, book and film reviews.

Special Settings: occupational therapy clinical department; anatomy and physiology laboratory.

Special Tools and Equipment: microscope, dissecting tools.

Special Physical Demands: vision and form perception for laboratory work; written communication skills to maintain patient records; oral communication skill for patient interaction.

NOTE: None of our responses relates to a craft course – consequently, the special projects, tools, physical requirements of such courses are not indicated above. But these courses are an important component of the programs.

OCCUPATIONAL
THERAPY
ASSISTANT

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Aides/assistants are expected to show interest in people's welfare and relate to them effectively. They should be capable of precision and be able to perceive differences in anatomical components.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Occupational Therapy Aid	Light	Indoors		✓	✓			

JOB DESCRIPTIONS:

Occupational Therapy Aid: assists Occupational Therapist in administering medically oriented occupational programs to assist in rehabilitating patients in hospitals and other institutions by instructing patients in manual and creative arts, crafts and games. May assist in fitting orthopedic devices and conduct programs for designated groups.

For further information on certification: Dr. William C. Sippel, Acting Exec. Secretary, State Board for Occupational Therapy, State Education Department, 99 Washington Avenue, Albany, N.Y. 12230.

PROFESSIONAL ASSOCIATIONS:

**American Occupational
Therapy Association
6000 Executive Blvd.
Suite 200
Rockville, Maryland
20852**

PHYSICAL THERAPY ASSISTANT

These programs prepare students to assist registered physical therapists in the physical rehabilitation of patients disabled by illness or accident, or born with a handicap.

In a combination of classroom and clinical work, courses may include anatomy and physiology, physics for health careers, mathematics, psychology, kinesiology, physical therapy assisting and introduction to health technology.

Jobs may be found in hospitals and clinics.

OFFERED AT:

Nassau	*	Suffolk/Selden	*
Orange County	*		

**full or partial response to questionnaire*

PHYSICAL THERAPY ASSISTANT

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	◕	◕	◒	●
RANGE	2 / 3	1 / 2	1 / 6	2 / 4.5	10 / 100	1 / 3	5	1 / 3
M.F.F.	3	2	1	3	0,13	0,1	0,5	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	89%	54%	0	46%	0	67%	62%	50%	63%
SOME-TIMES	0	0	62%	0	17%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	◕	◕	●
YES	92%	100%	92%	25%	83%	92%	33%	50%	33%	23%	92%	0	92%	62%	92%	92%	54%	0	85%
SOME-TIMES	0	0	0	0	0	0	0	33%	42%	0	0	0	0	8%	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	100%	54%	46%	85%	85%	92%	92%
SOME-TIMES	0	8%	8%	8%	0	0	0

CLASSROOM SETTING

	special setting?	stairs or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	92%	42%	100%	75%	44%	38%	0	92%	92%	31%	0	0
SOME-TIMES	0	42%	0	8%	0	0	0	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	100%	0	0	●	0	0	85%	8%	●	23%	38%	38%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	◕	●	●	●	●	→		●	●	●	●	●	●	●	●
YES	69%	54%	85%	85%	77%	92%	75%	33%	85%	77%	77%	92%	85%	85%	100%	77%
SOMETIMES	23%	0	8%	0	0	0	8%	42%	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	◕	◕	◕	●	◕	●	●	●	●	●	●	●
YES	100%	77%	54%	46%	54%	46%	54%	100%	0	77%	100%	62%	54%	77%	31%	69%
SOMETIMES	0	0	0	0	0	0	0	0	0	8%	0	31%	0	7%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: journal article reviews, special meetings, seminars, weekly patient reports, surgical observation report, glossary compilation.

Special Settings: mock physical therapy department, hospital laboratory.

Special Tools and Equipment: shoulder wheels, finger ladders, pulleys, dumbbells, sandbags, mats, parallel bars, plinths, tilt tables, ice, goniometers (instruments for measuring angles), crutches, wheelchairs, electro-therapy equipment, model of patient, bathtub, toilets, stairs, blood pressure equipment.

Special Physical Demands: coordination, dexterity and strength to manipulate dials, move equipment (up to 50 pounds), transfer patients, for massage, finger function and motor training; hand strength for grasping patients' limbs; vision to observe patient status and activities and read dials; tactile perception for muscle palpitation; oral skill for interaction with patients.

PHYSICAL
THERAPY
ASSISTANT

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Physical Therapists are expected to be interested in people's welfare and relate to them effectively. They should be capable of learning and applying technical knowledge, precision, and perceiving differences in anatomical components. Assistants would probably be expected to display the same traits.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Physical Therapist	Light	Indoors			✓	✓	✓	

JOB DESCRIPTIONS:

Physical Therapist: treats patients with disabilities, disorders and injuries to relieve pain, develop or restore function and maintain maximum performance, using physical means such as exercise, massage, heat, water, light and electricity as prescribed by a physician.

PROFESSIONAL ASSOCIATIONS:

National Association of
Physical Therapists
P.O. Box 367
West Covina, California
91793

American Physical
Therapy Associations
1156 15th Street N.W.
Washington, D.C.
20005

RADIOLOGIC TECHNOLOGY

Programs in Radiologic Technology provide an understanding of the principles and practices of the diagnostic applications of radiation. The technologist does the following under the supervision of a physician: produces clear, precise films of internal body parts through proper positioning of the patient, protects the parts of the body not to be exposed to radiation, takes and develops x-ray film. Graduates of the program are eligible for the licensure examination of the New York State Department of Health and for registration by the American Registry of Radiologic Technology.

In addition to substantial amounts of clinical work, sometimes offered during the summer, the programs usually consist of such courses as anatomy, physiology, chemistry, biology, radiologic technology, medical terminology, physics, mathematics and medical and surgical diseases.

Employment may be found in hospitals, clinics, physicians' offices or in industrial firms where radiation is used for quality control. New York State law prohibits the use of x-rays on human beings by unlicensed operators (with certain exceptions). State licensing examinations for radiologic technologists (diagnostic) are given twice a year to graduates of two-year Health Department-approved hospital courses, or Education Department-approved colleges. Applicants must be at least 18 years of age.

OFFERED AT:

Hudson Valley	*	North Country	*
Monroe	*	Westchester	*
New York City	*		

**full or partial response to questionnaire*

RADIOLOGIC TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	●	◕	◒	●
RANGE	1/3	1/3	1/3	1/7	10/100	1/3	5/12	1/5
M.F.F.	3	1	1	2	20	0,1	0,6	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	●	●	●	●	→	→	●	→	→
YES	93%	55%	3%	26%	13%	13%	84%	88%	23%
SOME-TIMES	0	0	74%	0'	0	63%	0	4%	4%

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	●	●	●	●	●
YES	97%	100%	70%	70%	60%	97%	40%	93%	27%	7%	99%	39%	26%	32%	100%	58%	45%	16%	45%
SOME-TIMES	0	0	0	0	0	0	0	0	3%	0	0	0	0	0	0	0	13%	13%	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	84%	81%	65%	97%	100%	99%	81%
SOME-TIMES	0	13%	3%	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	77%	21%	100%	29%	100%	16%	10%	90%	100%	48%	16%	6%
SOME-TIMES	0	17%	0	4%	0	3%	10%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spac	varies
●	94%	0	0	●	0	0	94%	0	◕	42%	13%	16%

ACADEMIC TASKS LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	52%	52%	48%	55%	26%	65%	95%	40%	35%	58%	65%	65%	71%	65%	74%	52%
SOME-TIMES	0	6%	0	0	3%	0	0	0	0	0	0	0	0	0	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
YES	58%	81%	35%	58%	71%	68%	68%	97%	10%	81%	81%	81%	19%	87%	32%	61%
SOME-TIMES	0	0	0	0	0	0	0	0	13%	3%	10%	3%	19%	10%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: term papers; critiques of journal articles; film library based on laboratory work.

Special Settings: anatomy, physiology and radiologic laboratories; darkroom; and audio-visual equipment laboratory.

Special Tools and Equipment: human skeleton, model of patient, radiographic view box, x-ray tables and controls, electrical meters, automatic film processor, darkroom equipment, cassettes, microscopes, dissecting table and tools; audio-visual equipment.

Special Physical Demands: strength, coordination and dexterity for positioning patients, palpating parts of the body, manipulating controls on radiologic equipment, assembling circuits; vision for evaluation of radiographs and laboratory work; form perception for discerning anatomical structures on radiographs; oral communication skills for patient and physician relationships; capacity to maintain written records; stamina for full day of laboratory work.

RADIOLOGIC TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Technologists are expected to be interested in patient's welfare and be able to relate to them effectively. They must be capable of learning and using technical knowledge, precision and perceiving differences in anatomical components. Radiologic Technologists must be able to deal with potentially hazardous work situations.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Radiologic Technologist	Medium	Indoors (risk)			√	√	√	

JOB DESCRIPTIONS:

Radiologic Technologist: applies roentgen rays and radioactive substances to patients for diagnostic purposes; positions patient and adjusts immobilization devices; administers drugs orally or as enemas to render organs opaque; develops films; prepares reports and maintains records.

For additional information about licensing requirements and approved schools: Mr. Howard L. Goldman, Director, Department of Health, Tower Building, Empire State Plaza, Albany, N.Y. 12237.

PROFESSIONAL ASSOCIATIONS:

American Society of
Radiologic Technologists
500 N. Michigan Avenue
Room 836
Chicago, Illinois
60605

The American Registry
of Radiologic
Technologists
2600 Wayzata Blvd.
Minneapolis, Minnesota
55405

RECREATION LEADERSHIP

Schools offering these programs train middle-level management personnel prepared to administer, promote and direct a broad spectrum of recreation programs that may include one or more of the following activities: sports and games, arts and crafts, dance or music, camping or recreation therapy. The setting for such activities could be as varied as the groups for which they are designed. A recreational leader might find himself organizing activities for a group of pre-schoolers, a group of working or vacationing adults, for the elderly or for a group of handicapped in need of therapeutic recreation.

The curriculum for recreational leadership often consists of a number of general education courses plus professional recreation courses in subjects such as recreational management, administration, leadership, recreational equipment, parks and camp recreation as well as courses in music, art, drama and first aid. Some schools offer some more specialized options in subjects such as recreation for the aged, therapeutic recreation, sports officiating; some schools appear to emphasize physical education more than others; and some have a recreation practicum or supervised field experience.

A graduate may work as a recreation leader or recreation assistant, activities specialist assistant park superintendant, camp or waterfront director, arts and crafts director or recreation therapist.

OFFERED AT:

Borough of Manhattan		Kingsborough	*
Clinton	*	Monroe	*
Delhi	*	New York City	
Dutchess		Orange County	*
Erie/South	*	Ulster	*
Farmingdale	*	Westchester	
Hudson Valley	*		

**full or partial response to questionnaire*

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	◒	◕	◕	◕	●
RANGE	1 / 3	1 / 4	1 / 3	1 / 9	2 / 40	1 / 8	1 / 25	1 / 9
M.F.F.	2.5	1	0,1	0,1.5	0,40	1	0,3	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	●	→	→	●	→	→
YES	73%	50%	4%	39%	44%	50%	9%	100%	100%
SOME-TIMES	0	0	0	4%	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	◕	●	●	●
YES	98%	67%	58%	33%	36%	62%	36%	42%	29%	9%	91%	63%	17%	80%	67%	59%	76%	11%	72%
SOME-TIMES	0	0	0	0	0	0	0	9%	20%	0	0	0	0	0	0	9%	0	0	7%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	80%	41%	43%	80%	74%	96%	80%
SOME-TIMES	0	2%	2%	0	4%	0	0

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	46%	46%	18%	25%	50%	17%	4%	61%	80%	70%	7%	22%
SOME-TIMES	2%	1%	0	0	0	7%	4%	7%	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	41%	0	50%	●	2%	0	43%	35%	●	20%	28%	33%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	67%	20%	4%	15%	15%	48%	29%	13%	13%	20%	22%	30%	37%	33%	41%	28%
SOMETIMES	4%	4%	4%	2%	2%	4%	0	0	2%	2%	2%	2%	2%	2%	2%	2%

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	◕	◕	●	◕	●	●	●	●	●	●	●
YES	35%	26%	2%	15%	37%	20%	15%	80%	20%	43%	80%	72%	37%	61%	52%	35%
SOMETIMES	0	0	0	0	0	7%	4%	4%	4%	17%	0	7%	7%	2%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: preparing recreation program for a family campground; analyzing the design of a campground; preparing budget for parks administration; developing outdoor educational facility; teaching arts and crafts techniques to a group and setting up a craft show; surveying the recreational resource of a local community; grounds maintenance equipment project; a week in outdoor camp environment; teaching recreation activities to children; preparation of gymnastic routines; developing facilities and equipment booklet; planning and teaching physical education exercises; visiting and reporting on recreational agencies.

Special Settings: swimming pool; room for first aid procedures; gymnasium; field area; outdoor archery area; badminton, tennis facilities; large recreation room; audio-visual studio; outdoor track; arts and crafts studio; drafting room; equipment workshop.

Special Tools and Equipment: dummies for simulated first aid; arts and crafts equipment – hand drills, hand saws; recreational games; camping equipment – tents, stoves, lanterns; outdoor recreational equipment tools – hatchet, ax, chain saw, hammer, building tools; ground maintenance tools and equipment; recreation for handicapped equipment – wheelchairs, portable desks and tables, recorded books.

Special Physical Demands: lifting and carrying recreational equipment and timber, lumber, tools; ground maintenance equipment up to 100 pounds; camping equipment; hand-grasping for first aid techniques; arts and crafts; eye-hand motor coordination for life saving, first aid, recreation for handicapped – ping pong, modified basketball, small target games; verbal facility for constant public contact, communicating in group leadership situations, camp counseling, teaching physical education; moving freely about to evaluate, coordinate, direct programs.

Internships: nine weeks in assigned agency (Hudson Valley).

RECREATION LEADERSHIP

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Leaders should be able to communicate ideas effectively, understand and apply teaching techniques and organize well. On a supervisory level, the ability to plan and execute programs, prepare and review financial and materiel reports and flexibility are also expected.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Recreation Leader	Light	Indoors Outdoors				√		√
Recreation Supervisor	Sedentary	Indoors				√		

JOB DESCRIPTIONS:

Recreation Leader: conducts recreation activities with assigned groups in public or voluntary agencies under supervision.

Recreation Supervisor: supervises paid and volunteer recreation personnel; demonstrates leadership skills and techniques, or assists others to do so; introduces new program activities, trains personnel and evaluates performance.

PROFESSIONAL ASSOCIATIONS:

Society of Park &
Recreation Educators
1601 N. Kent Street
Arlington, Virginia
22209

Outdoor Recreation
Institute
5003 Wapakoneta
Washington, D.C.
20016

RESPIRATORY THERAPY TECHNOLOGY

These programs prepare students to work as respiratory or inhalation therapists in hospitals and clinics through the study of basic principles as well as the clinical and technical skills used in the treatment of respiratory and cardiac difficulties. Most graduates will be eligible to apply for registration with the American Registry of Respiratory Therapists.

Programs include practical experience in patient care and such courses as mathematics, anatomy and physiology, chemistry, cardio-pulmonary pathology, pharmacology, respiratory therapy, microbiology, physics and psychology.

Under the direction of a physician, the respiratory therapist is in charge of the technical details of oxygen administration and other respiratory treatment.

OFFERED AT:

Borough of Manhattan	*	Nassau	*
Erie/North	*	Westchester	*
Hudson Valley	*		

**full or partial response to questionnaire*

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◔	◔	●
RANGE	1 / 6	1 / 3	1 / 8	1 / 9	10 / 50	1 / 5	5 / 6	1 / 4
M.F.F.	2	1	1,2	8	0,35	0,1	0,5	3

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◕	●	●	◕	→	→	●	→	→
YES	56%	21%	42%	29%	86%	14%	75%	83%	67%
SOMETIMES	0	8%	8%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	◕	◕	●
YES	96%	96%	48%	87%	83%	91%	43%	48%	26%	71%	96%	63%	21%	83%	79%	75%	58%	21%	88%
SOMETIMES	0	0	0	0	0	0	0	43%	22%	0	0	0	0	8%	0	0	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	96%	63%	79%	96%	96%	96%	96%
SOMETIMES	0	4%	8%	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor? →	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	92%	62%	40%	71%	76%	29%	4%	67%	88%	54%	42%	21%
SOMETIMES	8%	0	0	0	0	8%	8%	17%	0	17%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	96%	0	0	●	8%	0	83%	0	●	25%	21%	29%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.P.	●	●	●	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	58%	63%	54%	38%	38%	79%	89%	89%	54%	58%	79%	58%	83%	71%	83%	50%
SOMETIMES	0	0	0	0	0	0	0	0	0	0	0	8%	0	8%	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◒	●	●	●	●	●	●	●
YES	71%	83%	46%	33%	38%	67%	67%	96%	29%	79%	75%	79%	21%	79%	13%	71%
SOMETIMES	0	0	0	8%	0	8%	0	0	4%	0	21%	0	0	21%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: case studies, analysis of laboratory specimens, research papers.

Special Settings: laboratories, hospitals.

Special Tools and Equipment: respiratory therapy equipment including oxygen cylinders, humidifiers, flow meters, rafter tubing, ventilators, syringes, spirometers, audio-visual equipment, microscopes, dissecting tools.

Special Physical Demands: strength, coordination, dexterity to lift, use and adjust tools and equipment listed above, and to lift and position patients; vision to read meters on respiratory equipment, for laboratory work and to evaluate patient status; oral communication for emergencies and interaction with patients — e.g. to provide reassurance, instruction.

Internship: in hospitals.

RESPIRATORY
THERAPY
TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Therapists should be interested in patient's welfare and be able to learn and use technical knowledge. They should be capable of precision in administering treatment and keeping charts, and be able to perceive differences in anatomical components.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Inhalation Therapist (Respiration Therapist)	Light	Indoors			√		√	

JOB DESCRIPTIONS:

Inhalation Therapist: sets up and operates oxygen equipment such as iron lungs, oxygen tents, resuscitators to administer oxygen and other gases to patients; works under supervision of physician and in conjunction with nurses.

PROFESSIONAL ASSOCIATIONS:

American Association for
Respiratory Therapy
7411 Hines Place
Dallas, Texas
75235

The National Board for
Respiratory Therapy Inc.
1900 W. 47th Street
Suite 124
Westwood, Kansas
66205

RETAIL BUSINESS MANAGEMENT

Programs in Retail Business Management respond to the need for well-trained individuals to work in middle-management merchandising and store operations positions in large retail organizations.

Several colleges offer work-study programs with blocks of full-time compensated work, for credit, alternating with academic studies. In at least one school credit is given for prior work experience.

Course work usually includes some humanities plus such subjects as retailing principles, merchandising, management, business law, fashion, publicity, salesmanship and accounting.

Within a few years graduates may expect positions as department store buyer, department manager, variety store manager or work in operations, publicity or personnel.

OFFERED AT:

Alfred	*	Monroe	*
Bronx		Nassau	
Canton	*	North Country	*
Cayuga	*	Orange County	
Corning		Suffolk/Selden	*
Dutchess	*	Suffolk/Western	
Jamestown		Tompkins-Cortland	
Kingsborough	*	Ulster	*
Mohawk Valley	*		

**full or partial response to questionnaire*

RETAIL BUSINESS MANAGEMENT

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◔	◔	●	◕	◕	●
RANGE	1/5	1/3	1/8	1/8	1/150	1/20	1/150	1/9
M.F.F.	3	1	0,1	0,1	0,40	1	0,10	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required?	transport provided?	crucial - no substitute?	off-campus internship required?	public employ?	private employ?
R.R.R.	◕	●	●	● →	→	→	● →	→	→
YES	53%	49%	10%	26%	32%	45%	17%	21%	78%
SOME-TIMES	3%	1%	46%	2%	5%	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used?	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	● →	→	→	→	→	→	→	●	●	●	●	●	●	●	●	◕	●	●	●
YES	83%	56%	55%	49%	26%	75%	51%	46%	46%	20%	76%	38%	35%	62%	65%	64%	57%	41%	55%
SOME-TIMES	1%	0	0	0	0	0	0	4%	10%	0	0	0	0	2%	1%	1%	1%	1%	1%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	76%	38%	48%	75%	79%	77%	65%
SOME-TIMES	2%	10%	6%	1%	4%	1%	1%

CLASSROOM SETTING

	special setting?	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	● →	→	→	→	→	●	●	●	●	●	●	●
YES	20%	11%	0	33%	67%	13%	5%	71%	77%	65%	10%	10%
SOME-TIMES	0	0	0	6%	0	0	5%	1%	0	2%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	70%	0	8%	◕	2%	2%	54%	11%	◕	24%	19%	25%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	81%	10%	5%	7%	7%	14%	33%	33%	6%	5%	8%	10%	12%	10%	17%	7%
SOMETIMES	1%	0	0	0	0	0	0	0	0	0	0	0	1%	0	1%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	40%	19%	4%	7%	20%	24%	13%	67%	25%	40%	65%	75%	48%	37%	61%	29%
SOMETIMES	2%	2%	1%	2%	1%	0	0	2%	1%	5%	6%	4%	5%	43%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: workbook, advertising campaign, sales presentation, preparation of a resume, critique of window displays, research at Metropolitan Museum of Art, preparation of a sales manual, computer use, telephone interviews, accounting practice set, oral group presentation, job search scenario, communications media project.

Special Settings: stores, display stage, library, typing room, lecture hall equipped with student response system (Monroe).

Special Tools and Equipment: display materials (props, hammers, nails), merchandise, computer, video cassette, typewriter, calculator, keypunch machine.

Special Physical Demands: lifting boxes of all sizes and shapes weighing up to 50 pounds; sufficient oral communication skill, sight and perception to sell merchandise; writing skills for business letters and reports; oral communication for participation in television and radio commercials; tactile perception, dexterity, eye-hand coordination to use typewriter and calculator.

RETAIL BUSINESS MANAGEMENT

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Individuals in this field should have ability to relate to people on all levels and to persuade verbally. Initiative and drive are frequently required. Those in managerial positions should have the capacity to motivate and lead others and sufficient numerical facility to maintain inventory controls.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Manager, Retail General Merchandise	Sedentary	Indoors				✓		
Buyer	Light	Indoors				✓	✓	
Salesman, Apparel	Medium	Indoors				✓		

JOB DESCRIPTIONS:

Manager, Retail General Merchandise: hires, trains and discharges employees; plans work schedules and supervises workers; maintains stock and formulates price policies.

Buyer: selects and orders merchandise for resale; may conduct meetings with selling personnel to introduce new merchandise; may formulate resale prices.

Salesman: sells to business establishments or to individuals in person or by phone; displays or demonstrates merchandise; quotes prices and credit terms.

PROFESSIONAL ASSOCIATIONS:

Mass Retailing Institute
570 5th Avenue
New York, N.Y.
10018

SCIENCE LABORATORY TECHNOLOGY

Programs in Science Laboratory Technology train technicians/laboratory assistants to perform tests in chemical, biological or environmental laboratories in industry and hospitals, for example. Schools often divide the programs into chemistry and biology options, and some schools have options in physis, mathematics, general science, environmental health technology (Staten Island and Ulster), computer science (Staten Island), water quality monitoring (Ulster).

Courses may include science laboratory techniques, mathematics, biology, chemistry, physics, water supply and wastewater treatment, environmental studies and computers and programming.

Jobs may be found in such areas as pharmaceuticals, food, plastics, textiles and may go by such titles as control analyst, junior chemist, research assistant.

OFFERED AT:

Canton		Morrisville	
Cayuga		Niagara	
Cobleskill		Rockland	*
Jefferson	*	Staten Island	*
Mohawk Valley	*	Ulster	*

**full or partial response to questionnaire*

SCIENCE LABORATORY TECHNOLOGY

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2)**, and **Manual Format: Pattern and Purpose, (page 4)**, for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	●	●	●	◔	◔	●
RANGE	1 / 3	1 / 2.5	1 / 2	2 / 4.5	5 / 50	1 / 4	4 / 10	1 / 2
M.F.F.	3	1	1	3	40	0,1	0,8	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial - no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◒	●	●	●	→	→	●	→	→
YES	48%	12%	0	41%	64%	29%	0	0	0
SOME-TIMES	0	0	50%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	●	●	●	●	●	●	●	●	●	●	●
YES	91%	94%	44%	53%	75%	63%	25%	38%	69%	38%	94%	50%	29%	85%	88%	82%	61%	38%	85%
SOME-TIMES	3%	0	0	0	0	0	0	9%	6%	0	0	0	0	0	0	3%	0	0	0

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	●	●	●	●
YES	88%	32%	29%	76%	85%	94%	79%
SOME-TIMES	0	0	0	0	0	0	0

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	91%	23%	0	32%	90%	0	21%	82%	91%	97%	0	3%
SOME-TIMES	0	6%	0	0	0	6%	6%	0	0	0	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
◕	62%	0	9%	◕	0	0	59%	9%	◕	21%	26%	15%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently →	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	32%	47%	32%	12%	9%	68%	54%	13%	18%	41%	62%	74%	91%	59%	91%	9%
SOMETIMES	3%	3%	3%	3%	0	3%	0	0	0	3%	3%	3%	6%	15%	0	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	18%	53%	18%	47%	56%	62%	32%	76%	38%	18%	88%	74%	18%	18%	59%	24%
SOMETIMES	3%	3%	0	3%	6%	3%	9%	0	12%	9%	0	6%	0	56%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: individual studies on instrumentation; preparation of histological slides; research papers, statistical evaluation; chemical analyses; campus blood testing and screening; ecological (aquatic and terrestrial) site analysis; laboratory reports.

Special Settings: laboratories.

Special Tools and Equipment: microscopes, microtomes, slides, spectrophotometers, incubators, glassware and other laboratory equipment; library resources; ecology field equipment.

Special Physical Demands: coordination and dexterity for laboratory procedures such as weighing, pouring solutions, adjusting apparatus, controlling burners; vision and form perception for laboratory analyses; ability to lift up to seven pounds (laboratory animal) and up to 50 pounds in an ecology course.

SCIENCE LABORATORY TECHNOLOGY

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Technicians should have good academic background, mathematical facility, the capacity to attend to detail, and have sufficient form perception to distinguish differences in materials.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Chemical Laboratory Technician	Light	Indoors			✓		✓	

JOB DESCRIPTIONS:

Chemical Laboratory Technician: conducts chemical and physical laboratory tests and makes quantitative and qualitative analyses.

PROFESSIONAL ASSOCIATIONS:

International Society for
Clinical Laboratory
Technology
805 Ambassador Bldg.
411 N. Seventh Street
St. Louis, Missouri
63101

SECRETARIAL SCIENCE (GENERAL)

(see also: EXECUTIVE SECRETARIAL SCIENCE, LEGAL SECRETARIAL SCIENCE, MEDICAL SECRETARIAL SCIENCE)

Through the study of secretarial skills students are prepared to be productive members of an office staff.

In addition to the humanities, course work includes typing, shorthand and usually some of the following: secretarial procedures, office machines, accounting principles.

Potential jobs for graduates of these programs may be called secretary, Girl Friday, receptionist, administrative assistant.

OFFERED AT:

Adirondack	*	Hudson Valley	*
Borough of Manhattan		Kingsborough	
Bronx		LaGuardia	
Canton	*	Monroe	*
Cayuga	*	Morrisville	*
Cobleskill		New York City	
Finger Lakes		North Country	
Delhi		Orange County	
Dutchess	*	Queensborough	*
Erie/City	*	Rockland	
Erie/North		Staten Island	
Erie/South		Suffolk/Selden	*
Fulton-Montgomery	*	Suffolk/Western	*
Genesee	*	Sullivan County	*
Herkimer		Tompkins-Cortland	*
Hostos		Westchester	*

**full or partial response to questionnaire*

SECRETARIAL SCIENCE (GENERAL)

ACADEMIC TASKS: CLASSROOM SETTING

Note: Please read **Introduction, (page 2),** and **Manual Format: Pattern and Purpose, (page 4),** for vital information on data base and methodology. A fold-out sheet containing explanatory notes and a **key** to the following charts is to be found on **page 7**.

COURSE REQUIREMENTS

	number of lectures per week	length of each lecture (hours)	number of labs per week	length of each lab (hours)	readings: pages per week	number of papers per course	length of papers (pages)	number of instructors per course
R.R.R.	●	●	◕	◕	◕	◔	◔	●
RANGE	1 / 5	1 / 2.5	1 / 6	1 / 3	2 / 50	1 / 50	1 / 10	1 / 4
M.F.F.	3	1	0,2	0,1	0,20	0,4	0,1	1

	library work required?	classroom discussion vital?	guest lecturers?	field trips required? →	transport provided?	crucial no substitute?	off-campus internship required? →	public employ?	private employ?
R.R.R.	◔	●	●	●	→	→	◔	→	→
YES	14%	33%	3%	4%	40%	40%	6%	100%	100%
SOMETIMES	0	2%	23%	0	0	0	0	0	0

CLASSROOM PROCEDURES

	audio/visual aids used? →	slides?	printed lecture notes?	records, tapes?	models?	pictures, charts?	film, videotape?	audio/visual aids available for review?	substitutes for use of audio/visual aids?	classroom use of typewriter?	classroom use of tape recorder?	electric outlets - floor level?	electric outlets - seat height?	interpreter for deaf acceptable?	time limited exams?	time limited exams extendable?	exam alternative-oral?	exam alternative-take home?	use of typewriter for exam?
R.R.R.	●	→	→	→	→	→	→	●	◕	●	●	●	●	●	●	●	◕	◕	◕
YES	87%	56%	25%	70%	20%	52%	8%	61%	21%	54%	72%	66%	15%	54%	73%	56%	28%	17%	51%
SOMETIMES	0	0	0	0	0	0	0	11%	8%	0	0	0	0	0	0	0	2%	2%	1%

CLASSROOM PROCEDURES

	shared note-taking acceptable?	course outline available in advance?	technical glossary in advance?	reading assignments in advance?	key phrases written on board?	assignments given orally?	assignments given in writing?
R.R.R.	●	●	●	◕	●	●	●
YES	44%	38%	38%	52%	65%	80%	75%
SOMETIMES	1%	7%	2%	2%	2%	2%	2%

CLASSROOM SETTING

	special setting? →	staired or raised entry?	entry ramp?	on upper floor?	elevator?	lecture not in routine classroom?	desks/chairs fixed in place?	space for wheelchair?	board and podium well lit?	adjustable window blinds?	frequent classroom changes?	occasional classroom changes?
R.R.R.	●	→	→	→	→	●	●	●	●	●	●	●
YES	63%	21%	80%	83%	90%	9%	29%	78%	85%	68%	4%	13%
SOMETIMES	0	14%	0	0	0	0	2%	3%	0	3%	NA	NA

COURSE'S WORK ENVIRONMENT

location				temperature					space			
R.R.R.	indoors	outdoors	varies	R.R.R.	hot	cold	moderate	varies	R.R.R.	crowded	spacious	varies
●	86%	0	4%	●	2%	0	62%	14%	◕	38%	13%	21%

ACADEMIC TASKS: LAB/SHOP/FIELDWORK SETTING

PHYSICAL AND PERSONALITY DEMANDS OF COURSE'S OCCUPATIONAL TRAINING

	sitting - one hour or more	standing	standing - one hour or more	stooping	kneeling	moving about freely and frequently	moving between rooms	moving up and down stairs	balancing	lifting	carrying	hand strength for grasping	manual dexterity	stretching, reaching	eye-hand coordination	eye-hand-foot coordination
R.R.R.	●	●	◕	●	●	●	→	→	●	●	●	●	●	●	●	●
YES	80%	7%	3%	5%	2%	20%	64%	18%	3%	8%	7%	11%	46%	25%	74%	13%
SOMETIMES	0	0	0	0	0	0	0	0	0	0	0	0	1%	0	1%	0

	verbal-oral communication	response to visual stimuli	tactile sensitivity	form perception (shape, color)	lengthy uninterrupted work sequence	work within limited time frame	speed essential	work together with others	work in isolation	work under stress	work under supervision	work with discretion, judgment	work in competition with others	frequent contact with strangers	work routine stable	work routine often changes
R.R.R.	●	●	●	●	●	●	●	●	◕	●	●	●	●	●	●	●
YES	32%	61%	29%	41%	48%	54%	70%	76%	27%	75%	86%	87%	54%	44%	55%	39%
SOMETIMES	2%	1%	0	1%	3%	5%	0	2%	3%	2%	3%	4%	0	39%	NA	NA

THE PHYSICAL PROFILE: A DETAILED SAMPLING

as reported by school respondents

Special Projects: checking job opportunities in other cities; public/human relations; calculations with special business problems; special projects for in-class lectures; legal and medical typing; accounting practice set; multi-media presentation; research paper; work-study.

Special Settings: model office, typing room, shorthand laboratory, business machine laboratory.

Special Tools and Equipment: typewriters; calculators; transcribing, keypunch and duplicating machines; audio cassettes for individualized instruction.

Special Physical Demands: lifting and carrying office machines weighing up to 20 pounds; hand strength, dexterity and coordination sufficient to operate typewriters and other office machines (e.g. eye-hand coordination for typing, eye-hand-foot coordination for transcribing machines); reach sufficient to cover the area of a desk; form perception for letter placement and to distinguish shorthand symbols; oral skills adequate for answering telephones and receiving people; written communication skills to deal with the letters, reports, etc. which are a major part of a secretary's responsibilities; speed and hearing for taking dictation; tactile perception for touch typing.

SECRETARIAL
SCIENCE
(GENERAL)

THE WORK PLACE:

Examples of Job Characteristics and Descriptions Based on the Dictionary of Occupational Titles.

WORKER TRAITS:

Workers should have a good understanding of relationship between words and sentences and be able to adjust to a range of routine situations. Accuracy and form perception are also needed.

JOB CHARACTERISTICS:

Job Title	Physical Demand	Setting	Climb, Balance	Kneel, Stoop	Reach, Handle, Finger	Talk, Hear	See	Eye-Hand-Foot Coord.
Secretary	Sedentary	Indoors			✓	✓	✓	
Typist	Sedentary	Indoors			✓		✓	

JOB DESCRIPTIONS:

Secretary: schedules appointments, gives information to callers, takes dictation and does other clerical and minor administrative tasks; types, sometimes from voice recordings.

Typist: types letters, reports, stencils and other straight copy material from rough draft or corrected copy; may verify totals on reports or bills and operate duplicating machines.

PROFESSIONAL ASSOCIATIONS:

National Secretaries
Association
2440 Pershing Road
Crown Center
Suite G-10
Kansas City, Missouri
64108

American Society of
Corporate Secretaries
1 Rockerfeller Place
New York, N.Y.
10020

SUGGESTIONS for INDEPENDENT EXPLORATION

Several lists of offices and organizations are appended here to facilitate further investigation by the student within the fields addressed by this manual and to encourage individual exploration of uncharted areas as well.

Questions suggested by the task analyses in this manual and by the architectural barrier survey in our earlier publication may prove helpful in providing a structured format of inquiry.

Three major investigative spheres ought to be targeted in such an effort:

(1) Academe as represented by schools and departments which offer vocational degree programs (list, p. 207)

(2) The particular job world in question as described by those most familiar with its varieties and boundaries — the professional associations (p. 209)

and

(3) The occupational outlook for the fields at issue as forecast by the U.S. Department of Labor (p. 209)

Information on specific job opportunities in particular locales for disabled individuals is also available from the Selective Placement Offices of the State Department of Labor (p. 210) and of the Federal Civil Service (p. 212). Though primarily serving job-seekers, both have indicated a willingness to respond to handicapped student requests for information prior to investing in a vocational field of study, on an individual basis where possible and in groups where demand warrants it.

Recently promulgated Federal regulations mandating the employment of properly qualified handicapped job applicants without prejudice in all facilities receiving Federal funding should enhance job prospects for this population in the near future. This coupled with continuing technological advances in the area of substitutive mechanisms ought to encourage disabled students to explore a broader range of vocational possibilities than might have previously been considered.

It is hardly likely that persons using this manual would be unfamiliar with the New York State Office of Vocational Rehabilitation, but in view of its vital role in this sphere, a brief description of its function is in order. The Education Department's Office of Vocational Rehabilitation is a public service agency which offers individual counseling and guidance to help the disabled person select and attain a suitable vocational objective. Handicapped persons may apply to their nearest O.V.R. offices in person, letter or by telephone. A list of local O.V.R. offices in New York State will be found on page 213.

SUNY–CUNY COMMUNITY COLLEGES

Adirondack Community College
Glen Falls, N.Y. 12801
(518) 793-4491

Alfred Agricultural
and Technical College
Alfred, N.Y. 14802
(607) 871-6111

Alfred Agricultural
and Technical College
(Wellsville)
Wellsville, N.Y. 14895
(716) 593-1390

Borough of Manhattan
Community College
1633 Broadway at 50th Street
New York, N.Y. 10019
(212) 262-3586

Bronx Community College
University Avenue
and West 181st Street
Bronx, N.Y. 10453
(212) 367-7300

Broome Community College
Binghamton, N.Y. 13902
(607) 772-5000

Canton Agricultural
and Technical College
Canton, N.Y. 13617
(315) 386-7011

Cayuga County Community College
Franklin Street
Auburn, N.Y. 13021
(315) 253-7345

Clinton Community College
P.O. Box 399
Plattsburgh, N.Y. 12901
(518) 561-6650

Cobleskill Agricultural
and Technical College
Cobleskill, N.Y. 12043
(518) 234-5011

Columbia-Greene Community College
Box 1000
Hudson, N.Y. 12534
(518) 828-4181

Corning Community College
Corning, N.Y. 14830
(607) 962-9011

Community College of the Finger Lakes
Lincoln Hill Road
Canandaigua, N.Y. 14424
(315) 394-3500

Delhi Agricultural
and Technical College
Delhi, N.Y. 13753
(607) 746-4111

Dutchess Community College
Pendell Road
Poughkeepsie, N.Y. 12601
(914) 471-4500

Erie Community College (City Campus)
1309 Main Street
Buffalo, N.Y. 14209
(716) 881-4200

Erie Community College (North Campus)
Main and Youngs Road
Buffalo, N.Y. 14221
(716) 634-0800

Erie Community College (South Campus)
4140 Southwestern Blvd.
Orchard Park, N.Y. 14127
(716) 648-5400

Farmingdale Agricultural
and Technical College
Farmingdale, N.Y. 11735
(516) 420-2000

Fashion Institute of Techology
227 West 27th Street
New York, N.Y. 10001
(212) 760-7675

Fulton-Montgomery Community College
Johnstown, N.Y. 12095
(518) 829-7321

Genesee Community College
College Road
Batavia, N.Y. 14020
(716) 343-0055

Herkimer Community College
Reservoir Road
Herkimer, N.Y. 13350
(315) 866-0300

Hostos Community College
475 Grand Concourse
Bronx, N.Y. 10451
(212) 993-8000

Hudson Valley Community College
80 Vandenburgh Avenue
Troy, N.Y. 12180
(518) 283-1100

Jamestown Community College
525 Falconer Street
Jamestown, N.Y. 14701
(716) 665-5220

Jefferson Community College
P.O. Box 473
Watertown, N.Y. 13601
(315) 782-5250

Kingsborough Community College
2001 Oriental Blvd.
Manhattan Beach
Brooklyn, N.Y. 11235
(212) 769-9200

LaGuardia Community College
31-10 Thomson Avenue
Long Island City, N.Y. 11101
(212) 626-2700

Mohawk Valley Community College
1101 Sherman Drive
Utica, N.Y. 13501
(315) 792-5500

Monroe Community College
P.O. Box 9720
Rochester, N.Y. 14623
(716) 442-9950

Morrisville Agricultural
and Technical College
Morrisville, N.Y. 13408
(315) 684-7000

Nassau Community College
Garden City, N.Y. 11530
(516) 742-0600

New York City Community College
300 Jay Street
Brooklyn, N.Y. 11201
(212) 643-4900

Niagara Community College
3111 Saunders Settlement Road
Sanborn, N.Y. 14132
(716) 731-3271, 4101

North Country Community College
20 Winona Avenue
Saranac Lake, N.Y. 12983
(518) 891-2915

Onondaga Community College
Route 173
Syracuse, N.Y. 13215
(315) 469-7741

Orange County Community College
115 South Street
Middleton, N.Y. 10940
(914) 343-1121

Queensborough Community College
Bayside, N.Y. 11364
(212) 631-6216

Rockland County Community College
145 College Road
Suffern, N.Y. 10901
(914) 356-4650

Schenectady Community College
78 Washington Avenue
Schenectady, N.Y. 12305
(518) 346-6211

Staten Island Community College
715 Ocean Terrace
Staten Island, N.Y. 10301
(212) 390-7733

Suffolk County
Community College (Selden)
533 College Road
Selden, N.Y. 11784
(516) 233-5174

Suffolk County
Community College (Western)
Crooked Hill Road
Brentwood, N.Y. 11717
(516) 233-5174

Sullivan County Community College
Loch Sheldrake, N.Y. 12759
(914) 434-5750

Tompkins-Cortland Community College
170 North Street
Dryden, N.Y. 13053
(607) 844-8211

Ulster County Community College
Stone Ridge, N.Y. 12484
(914) 687-7621

Westchester Community College
75 Grasslands Road
Valhalla, N.Y. 10595
(914) 946-1616

PROFESSIONAL ASSOCIATIONS

The major source of titles and addresses for professional associations is a reference, published and updated annually, known as the **Encyclopedia of Associations** by Gale. Only the largest libraries are likely to possess copies of this compilation since it is prohibitively expensive. In the New York City area, the Brooklyn Business Library is most accommodating with telephone responses to requests for particular addresses. Their number is 212-636-3281.

OCCUPATIONAL OUTLOOK

National projections of the waxing and waning of vocational needs are prepared by the U.S. Department of Labor, Bureau of Labor Statistics and published in an annual comprehensive edition of the **Occupational Outlook Handbook** as well as in the periodic reports of the **Occupational Outlook Quarterly.** These materials should be available at a Federal Depository library, local vocational school or the nearest office of the State Department of Labor.

Local/regional reports are issued by the New York State Department of Labor's Research and Statistics Office. While they do not have a direct consumer information mechanism, their data would be available to the Selective Placement counselors listed on page 212.

New York State Department of Labor Special Employment Services
Selective Placement Offices

Miss Rosalind Rubin
Industrial Office
250 Schermerhorn Street
Brooklyn, N.Y. 11201
212-855-7500

Mr. Irwin Horowitz
255 West 54th Street
New York, N.Y. 10019
212-265-2700

Ms. Elaine Abrams
1515 Broadway
New York, N.Y. 10036
212-869-8000

Mr. Phillip Morris
174 Grand Street
White Plains, N.Y. 10601
212-946-7850

Ms. Priscilla Goehle
301 Old Country Road
Hicksville, N.Y. 11801
516-938-9100

Mr. Russell Salerno
730 Fillmore Street
Buffalo, N.Y. 14212
716-854-4242

Mr. Douglas Kreinheder
District Office
1324 Pine Avenue
Niagara Falls, N.Y. 14300
716-842-4629

Ms. Betsy Sconfietti
155 West Main Street
Room 400
Rochester, N.Y. 14614
716-546-1770

Ms. Trudy Moss
677 South Salina Street
Syracuse, N.Y. 13202
315-474-7271

Federal Job Information and Testing Centers

BRONX

Carolyn McQuade - Chief
590 Grand Concourse
Bronx, N.Y. 10451
212-292-4666/7

MANHATTAN

Susan Commisso - Chief
26 Federal Plaza
New York, N.Y. 10007
212-264-0422

BUFFALO

Lucy St. Elmo - Chief
Federal Building
111 West Huron Street
Room 35
Buffalo, N.Y. 14202
716-842-2834/2837

BROOKLYN

Carolyn Roberts - Chief
271 Cadman Plaza East
Brooklyn, N.Y. 11201
212-596-5005/6434

ALBANY

George Decker - Chief
New Federal Building
Room 307
Broadway and Maiden Lane
Albany, N.Y. 12207
518-472-3313/4

SYRACUSE

Alex J. Kowalewski - Chief
E. M. O'Donnell Building
301 Erie Boulevard
Room 113
Syracuse, N.Y. 13202
315-473-5660/1

Federal Civil Service Selective Placement Counselors

New York City Area Office 26 Federal Plaza Room 2907 New York, N.Y. 10007	Ismael Rodrigues, Jr. 212-264-2486
Syracuse Area Office 301 Erie Boulevard West Syracuse, N.Y. 13202	Neil Baker 315-473-5650

Note: Many Federal agencies with appointing authority have designated a special coordinator (generally a representative of their personnel office) to insure full consideration of the handicapped in job placement. A listing of these coordinators by agency is maintained by the New York State Region Office:

U.S. Civil Service Commission
Federal Building
26 Federal Plaza
New York, N.Y. 10007

Offices of Vocational Rehabilitation

	Counties Served
Executive Park Tower Stuyvesant Plaza Albany, N.Y. 12203 518-457-5832	Albany, Columbia, Fulton, Greene, Hamilton, Montgomery, Rensslaer, Saratoga, Schenectady, Schoharie, Warren, Washington
State Office Building 44 Hawley Street Binghamton, N.Y. 13901 607-773-7830	Broome, Chenango, Delaware, Otswego, Tioga
Donovan State Office Building 125 Main Street Buffalo, N.Y. 14203 716-842-4300	Alleghany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming
110 West Second Street Elmira, N.Y. 14901 607-734-5294	Chemung, Schuyler, Steuben, Tompkins
1000 Franklin Avenue Garden City, N.Y. 11530 516-747-6200	Nassau
East Main Street Road Malone, N.Y. 12953 518-483-3530	Clinton, Essex, Franklin, St. Lawrence
225 Park Avenue South New York, N.Y. 10003 212-777-7010	Bronx, Kings, New York, Queens, Richmond
98 Austin Street Patchogue, N.Y. 11772 516-476-6900	Suffolk

Offices of Vocational Rehabilitation (continued)

	Counties Served
26 Oakley Street Poughkeepsie, N.Y. 12601 914-452-5325	Dutchess, Orange, Putnam, Sullivan, Ulster
242 Andrews Street Rochester, N.Y. 14604 716-325-5990	Livingston, Monroe, Ontario, Seneca, Wayne, Yates
State Office Building Syracuse, N.Y. 13202 315-473-8121	Cayuga, Cortland, Jefferson, Madison, Onondaga, Oswego
State Office Building 207 Genesee Street Utica, N.Y. 13501 315-797-6120	Herkimer, Lewis, Oneida
202 Mamaroneck Avenue White Plains, N.Y. 10601 914-946-1313	Rockland, Westchester

STATE UNIVERSITY OF NEW YORK COORDINATING AREA #4
MEMBER INSTITUTIONS

State University at Stony Brook

State University Downstate Medical Center

State University College at New Paltz

State University College at Old Westbury

State University College at Purchase

State University Maritime College

State University College of Optometry

State University Empire State College
  Long Island Learning Center
  Manhattan Learning Center

State University Agricultural and Technical College at Farmingdale

* Borough of Manhattan Community College

* Bronx Community College

Dutchess Community College

Fashion Institute of Technology

* Fiorello H. LaGuardia Community College

* Hostos Community College

* Kingsborough Community College

Nassau Community College

* New York City Community College

Orange County Community College

* Queensborough Community College

Rockland Community College

* Staten Island Community College

Suffolk County Community College

Sullivan County Community College

Ulster County Community College

Westchester Community College

UNIVERSITY OF CALIF.
LOS ANGELES

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CLEARINGHOUSE FOR
JUNIOR COLLEGES

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* *City University of New York cooperating institutions*